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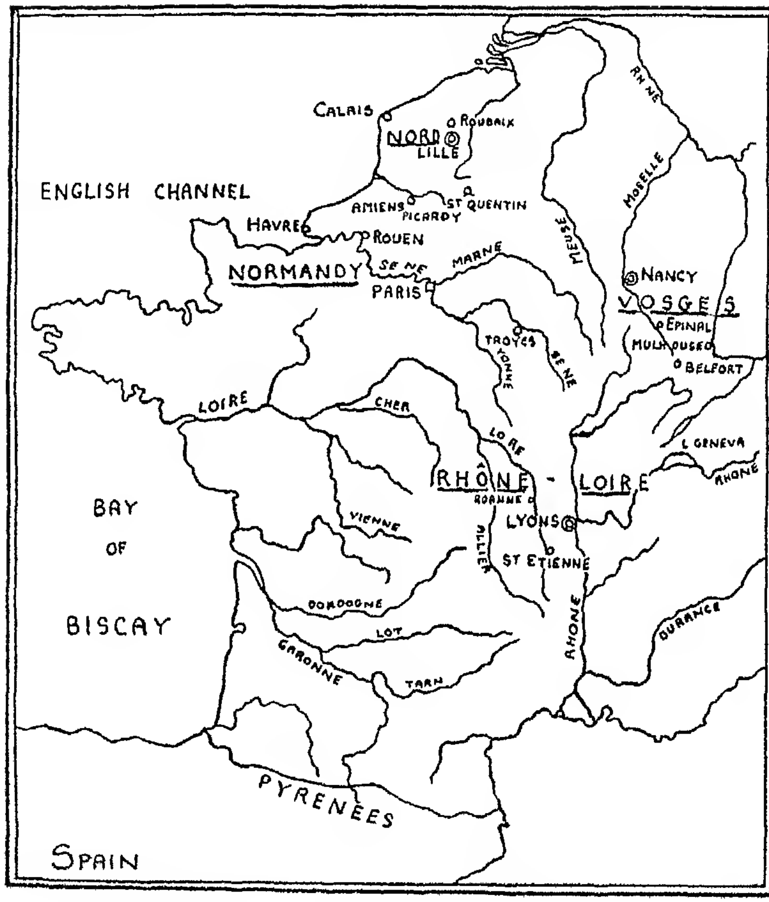


MAP SHOWING CENTRES OF COTTON PRODUCTION IN FRANCE

[*Frontispiece*

THE

# COTTON INDUSTRY IN FRANCE

A REPORT TO THE ELECTORS OF
THE GARTSIDE SCHOLARSHIPS


BY

R B FORRESTER, M A, M Com,

*Gartside Scholar, Lecturer in Political Economy in the University of Aberdeen*

WITH AN INTRODUCTION BY

D H MACGREGOR, M A,

*Stanley Jevons Professor of Political Economy and Cobden Lecturer in the University of Manchester*



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# PREFACE

THE material for this report was collected during visits to France in 1910, 1911, and 1912, supplemented by later inquiries, the object was to give an account of the conditions which prevailed in the Cotton Industry in that country, to point out the characteristic features of recent development, and in certain respects to contrast its position with that of the industry in other countries While this study is in the first place descriptive of technical, commercial and social conditions a definite attempt has been made to outline the problems which have been confronting those engaged in the industry, and reference has been made to the opinions of both employers and work-people upon the issues involved, attention has also been drawn to certain broad economic tendencies which are found to be operating in the industry

This work has necessarily been restricted at several points a large amount of historical material has been omitted, as it seemed advisable to concentrate upon present day conditions, certain important general questions such as the influence of the system of taxation upon French business enterprise have been omitted, as they raised issues which could not be dealt with satisfactorily in such a brief compass the description of the related industries has also been strictly compressed It is believed, however that this report will fulfil a useful purpose by providing a comprehensive picture of the industry as it existed in 1914, an effort has also been made to work out the influence of war conditions in certain directions, but some years must elapse before it becomes clear how the industry is readjusting itself to the changed conditions Much of the information provided will, it is hoped, prove useful for purposes of comparison with the descriptions of the cotton industry in other countries, which have been written by the Gartside Scholars

It is obvious that, since a considerable amount of information in this volume was obtained by personal inquiry, I am much indebted to the Cotton Spinners, Manufacturers, Merchants, and others with special knowledge, who so kindly gave me the opportunity to discuss with them the problems of the industry It

may be that in dealing with so large a mass of facts certain errors have crept in but it is hoped that they have been confined to matters of minor importance

My grateful acknowledgement is due also to Professor D H Macgregor Convener of the Gartside Electors, both for his words of introduction and for reading this report in MSS to Professor A J Turner, Manchester University, for his advice and helpful suggestions, to my colleague, Mr John Macfarlane, Lecturer in Geography in the University of Aberdeen, who read the MSS and made many useful criticisms of the text In the preparation of this book for publication, I have been greatly aided by my friend, Mr H M McKechnie, the Secretary of the Manchester University Press much assistance has also been given to me by my sister

My appointment to the charge of the Department of Political Economy in the University of Aberdeen late in 1912, and the necessity of putting this work aside between 1914 and my demobilization in 1919 have made the publication of this report much later than I had intended

R B FORRESTER

ABERDEEN,
*April*, 1921

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# INTRODUCTION

AS Convener of the Gartside Electors it is my pleasant duty to add a few words of introduction to Mr Forrester s Report His study of the French cotton industry completes an important and continuous research previous volumes having already been published on the industry in America, Germany, and Switzerland, in addition to Sir Sydney Chapman s initial study of the Lancashire cotton industry The Gartside bequest has thereby rendered an important service to the business interests of Lancashire and Mr Forrester's volume is a valuable addition to the series

This monograph, packed with information obtained at first hand is in the first place a vivid description of the cotton industry carried on under conditions widely different from those prevailing in Lancashire This contrast appears in every aspect of the study Mr Forrester sums it up in the statement that " the French cotton trade is not an economic unity ' that its separate grouping and its comparatively small mobility of labour and capital give it, within the same political unit, some of the aspects that are characteristic of international trade The dominating influence which appears in every branch of the study is that of the French genius for variety rather than for mass production Hence follows, in one respect, a type of establishment smaller than the British The largest average spindleage in any district is in the Lille area, with 67,000 , in Normandy the average is down to 24,500 , the detailed table shows how few firms compare with the 70,000 to 80,000 type in Lancashire In another respect there is noted the much smaller prevalence of the joint-stock principle, the family and the small employer counting for more in France than in England , with the interesting addition of a system of family control extending over cotton and allied industries In this connection, Mr Forrester confirms Marshall's view that large scale production does not attract French capital under any " workshop of the world " ideas, but that more routine lines of investment are chosen in a country much given to saving Mr Forrester's investigations throw much new light on these known tendencies The reactions on labour organisation show themselves in a far less development

of special skill than in England The operatives are not "a distinct group with a long tradition They are interchangeable, not only between cotton and other textiles, but even with agriculture Here is an intermediate step toward the problems of labour in the Moscow mills, where at certain seasons the claims of the land draw off the supply while the fields are sown or harvested There is not in France that conscious professional feeling which is so highly developed in Lancashire, where the younger generation grows up in the atmosphere of the industry And the interchangeability of labour is to some degree an obstacle to the organisation of short time since the operatives might move to another occupation The industry as a whole looking to the national market and secured by scientific protection lacks the articulation which makes the Lancashire cotton industry a type of modern organisation

From the employers' side Mr Forrester draws special attention to the endeavours of the associations to deal with the control of prices in bad times and the arrest of depressions Here is a field for further exploration in the treatment of unemployment The higher organisation of the German system of Cartels enables a general view to be taken of the problem of stocks, and their price policy in falling markets has enabled quick adjustments to be made In France, the association imposes short time automatically according as the stocks per spindle, computed monthly, exceed a certain figure, this is an alternative to the test of the unemployment figure Some equally rapid control of overtime would be a valuable supplement to such schemes How far can associations buy in from their members at averaged prices, re-selling in the rising market when it comes and accounting for the margins only ?—this is a problem of the finance of depressions, on which new evidence is being sought, and the French method is a contribution to it

This volume is the completest study in English of the French cotton industry, admirable in its conciseness, and in its combination of descriptive and analytic treatment Its author is to be congratulated on the valuable results of his investigations

D H MACGREGOR

THE UNIVERSITY,
MANCHESTER, *May*, 1921

THE COTTON INDUSTRY IN FRANCE

# CHAPTER I

## THE GROWTH, MAGNITUDE, AND GEOGRAPHICAL DISTRIBUTION OF THE INDUSTRY

It is customary to date the modern expansion of the French Cotton Industry from the period, 1860–1870, these years form a suitable starting place both on economic and technical grounds for a survey of the recent growth and development of cotton spinning and weaving and for some estimate of their present position and importance in the home and in the international trade of France

The chief economic forces which have affected in an important degree the industry of to day can be seen in operation with sufficient clearness during the last 40 to 50 years and many of them are in fact specially characteristic of this period

### THE ECONOMIC BACKGROUND

The Parliamentary Inquiry of 1870 into the influence of the economic regime of 1860 upon French industry alludes in the report upon cotton to some of these, one of the more outstanding is the great increase in transport facilities by railway, waterway and ocean shipping it has been said of the years 1860–1880 that they were notable for lowering costs of production in a greater degree through cheapened transport than through improved productive methods Through this influence the French textiles found their isolation reduced, and many districts found their local markets no longer under their accustomed control, there was that increased pressure of national and, after 1860, international competition, which according to Schulze-Gaevernitz is a main cause of technical progress and specialization A second notable feature of these years is the rapid change which takes place in the technical equipment, both in the case of spinning where the self-acting mule and later the ring spindle oust the mule-jenny, and of weaving, where the power-loom proves its superiority, the dominance of capital and of modern machine industry becomes assured as against the older methods of this relatively late date

The growth which takes place in international trading after 1870 is also important, as many countries in Europe and America, which had previously employed little of their powers

of production in manufactures, began to develop their industrial resources between 1873 and 1895 This broad tendency towards increased trade and the fall in the general level of prices are somewhat obscured in the literature of the French cotton trade by polemical writing upon French tariff policy, the importance of which appears to an outside observer somewhat exaggerated From 1793 until 1860 the regime of prohibition of foreign manufactures may be said to be general for the cotton trade together with taxation of the raw material and the machinery imported, and a bounty was paid on any re export of manufactured goods

It had, however, become obvious to the industrial interests after 1852 that Napoleon III desired to substitute for the rule of prohibition some moderate tariff system which would permit greater freedom of trade between nations The French Government of the Second Empire, partly influenced by the course of events in Britain and encouraged by the excellent position which their home manufactures had taken in the International Exhibition of 1855, formulated a series of measures in favour of industry which included the freeing of raw materials from duties, better communications, reduction of canal dues, the loan of capital at cheap rates of interest, and the removal of prohibitions Stout and unanimous opposition from the manufacturing interests was offered to this last proposal, and it was only because there was a clause in the new Imperial Constitution which gave the executive the power to alter the tariff as part of a treaty with a foreign nation, without requiring any ratification by the chambers, that the Anglo-French Commercial Treaty of 1860, the first of a series of such agreements was negotiated by Chevalier and Cobden It made a clean sweep of "prohibitions" and high duties, and put in their place rates which did not exceed 30% on value, and were in fact often between 10–20% on value, a few months later these were reduced to specific duties

A new period in French fiscal history begins with this treaty and stretches down to 1880, while it did not abolish the protection afforded to industry, yet it lowered the barrier to such an extent that for the first time the cotton trade felt the breath of international competition The Government may have cherished the desire to launch French industry into the world market which had proved so profitable to Britain, but the inquiry of 1870 is full of general statements of the cotton spinners and manufacturers comparing their relatively high

costs of production with those in Britain and Switzerland, and attempting to show that the new duties were totally inadequate to allow them to continue business on the then existing rates of profits and wages It was not, however, until 1892 that the manufacturers succeeded in giving effect to the high tariff policy which has been maintained until the present time Another feature which has vitally influenced the growth of the cotton trade is the vast colonial expansion on the part of France as well as of other countries during the last 30 years of the XIX century, the new territory in Africa and Asia opened up valuable markets to the cotton industry, the importance of which will be clearly seen when the examination of French foreign trade is made To this economic background must be added two exceptional events which affected the industry, the first was the "Cotton Famine," 1862–1864, which eliminated many of the weaker and more obsolete firms and ruined some of the many businesses which were renewing their equipment and were short of capital at that time it also taught the French to use short staple Indian cotton the second was the loss, in 1870, of the Alsatian industry of which Mulhouse was the centre, representing 1,500,000 spindles out of 5,300,000 and an even greater proportion of looms

In making this brief enumeration of factors which distinguish the environment of the industry after 1870, it should be kept in mind that cotton spinning and weaving have a notable and continuous history in France stretching back to the days of Louis XIV and the administration of Colbert, they had achieved a certain importance by the end of the XVIII century and are found in the neighbourhood of the older textiles, in Normandy, Picardy, the Nord, and in Alsace In the first half of the XIX century many of those British inventions were adopted which transformed spinning and weaving, and France was able to contribute constructive ideas of the front rank in the work of Jacquard, whose loom was used in the silk industry and adapted to cotton weaving and of Heilman in the combing industry, as well as a large number of lesser improvements

According to the industrial inquiry of 1863–5 there were 5,320 000 spindles in France which would place that country next to Britain in the size of its spinning equipment, and equal to the U S A at that time It is natural therefore that earlier historical conditions should be far from negligible in dealing with certain aspects of recent development of which the present localization of the industry is an example.

### GROWTH AND MAGNITUDE

Of the rough measures which serve to illustrate the rise and magnitude of the industry, the tables showing the numbers of spindles and looms at different times and also the amount of raw cotton consumed each year are the most satisfactory indications with which to start this survey Table I shows the number of spindles for France as a whole, and for each of three main districts, Normandy, the Nord, and the Est, the geographical extent of which will be explained

The figures are taken from government inquiries, tax, statistics, trade estimates, and, since 1907, from the statistics of the International Master Cotton Spinners' Federation Naturally these returns made for different purposes should be regarded as general estimates with a margin of error which becomes greater for less recent times Tax statistics and many trade estimates include more than spinning spindles, there are doubling spindles, waste spindles, and, before 1875, some of the spindles of the preparatory processes, whereas the Federation statistics are for spinning spindles only From this point of view the figures tend to understate the rate of growth A further difficulty in the figures showing the distribution by districts is that different authorities have taken different areas for their returns, thus the department of the Seine-Inferieure may be taken for Normandy, Lille as representative of the Nord, and the department of the Vosges for the Est, in this latter case there is also the Alsatian industry before 1870 Often in giving evidence before Committees of Inquiry, organizations representing employers or Chambers of Commerce give figures which represent the spindleage only of their own members for whom they speak

Bearing in mind the great technical improvements in the machines, the change in speed of running, the contrast between the mule-jenny, so common in 1860, and the self-actor and ring frame of 1910, and the differences due to fineness of counts, all of which points make the spindle a somewhat defective measure, it can be said that the growth of French cotton spinning has been well maintained, although the rate of growth has not been so notable as in newer centres of production in Europe It is also apparent that the advance is not even as between the three districts which are given, the Est shows by far the most striking development, in fact when once more combined with the Alsatian industry, it will

TABLE I

NUMBER OF SPINDLES AT VARIOUS DATES

| Year | All France | Normandy | Nord | Est |
|---|---|---|---|---|
| 1845 | 3 538 000 | 1 452 000 | 627 000 | (Includes Alsace up to 1870) |
| 1852 | 4 500 000 | — | 894 000 (203 000 doubling) | 1 330 000 |
| 1860 | 5 400 000 | 1 966 000 | 883 000 (300 000 doubling) | 1 510 000 (Vosges 473 000) (985 000 mule jennies) |
| 1865 | 5 300 000 | — | — | 1 678 000 |
| 1867 | 6 000,000 | — | — | 2 140 000 |
| | | 1 560 000 | — | (350 000 mule jennies) |
| 1870 | 4 500 000 | 1 920 000 | 1 400 000 (Lille 946 000) | 450 000 in Vosges etc |
| 1876 | 4 600 000 | — | 1 250 000 | — |
| 1880 | 4 600 000 | — | — | 650 000 |
| 1888 | — | 1 740 000 | 1 700 000 | 878 000 |
| 1890 | 5 090 000 | — | — | — |
| 1891 | — | — | — | 1 116 000 |
| 1894 | — | — | — | 1 480 000 |
| 1897 | — | — | — | 1 600 000 |
| 1900 | 5 500 000 | 1 750 000 | 2 030 000 (500 000 doubling) | — — |
| 1901 | 5 700 000 | — | — | — |
| 1903 | — | — | 2 200 000 | 2 200 000 |
| 1904 | 6 150 000 | — | — | — |
| 1905 | 6 200 000 | — | — | 2 387 000 |
| 1906 | 6 703 000 | — | — | — |
| 1907 | 6 800 000 | 1 650 000 | 2 600 000 | 2 548 000 |
| 1908 | 6 731 000 | — | — | — |
| 1909 | 7 000 000 | — | — | — |
| 1910 | 7 100 000 | — | 2 900 000 (700 000 doubling) | 2 708 000 |
| 1911 | 7,300 000 | 1 670 000 | — | 2 836,000 |
| 1912 | — | — | — | 2 947 000 |
| 1913 | 7 400 000 | — | — | — |
| 1914 | 7,560 000 | | | |
| 1920 | 9 400 000 No doubling spindles included after 1905 in this column | (7 234 000 | Active and Idle) | |

be distinctly the most considerable cotton spinning, weaving, and printing district on the continent of Europe, the Nord, the home of high counts and fine spinning, which feeds so many related industries with yarn, comes next in the rate of development, it has as many as 700,000 doubling spindles, Normandy, the oldest centre of cotton production in France shows least sign of expansion Taking the total spindleage of France

TABLE II

NUMBER OF LOOMS AT DIFFERENT DATES

| Year | All France Power Looms | Est (Includes Alsace to 1870) | Normandy | Rhone Loire | Nord |
|---|---|---|---|---|---|
| 1848 | 31 000 | 27 000 (part hand) | 43 500 (part hand) | (All hand) | 1 000 |
| 1865 | 80 000 (150 000 hand looms) | 50 043 | 14 460 | 6,000 | 9 000 |
| 1870 | 55 000 | 15 000 (Vosges only) (Alsace 31 000) | — | — | — |
| 1875 | 57 000 (80 000 hand) | — | — | — | — |
| 1880 | 65 900 (47 000 hand) | 25 700 (Vosges 16 000) | — | — | — |
| 1885 | 70 100 (33 000 hand) | — | — | — | — |
| 1888 | 72 800 (28 000 hand) | 29 700 (Vosges 20 600) | 20 500 | — | — |
| 1890 | — | — | — | 6 000 (Power) | — |
| 1893 | 86,000 | 33,000 | — | — | — |
| 1895 | 95 000 | 42 000 (Vosges 30 000) | — | — | — |
| 1900 | 102 000 | 49 000 | 36,000 | 12 000 | 3 200 |
| 1905 | 108 000 | 55 000 (Vosges 42,800) | 24 700 (Seine Inférieure and Eure only) | 15 000 | — |
| 1909 | 115,000 | 59,900 | 36 000 | 21,000 (20 000 hand looms in addition) | 5,000 |
| 1912 | 121,000 (plus 20 000 hand looms) | 65,700 | — | — | — |

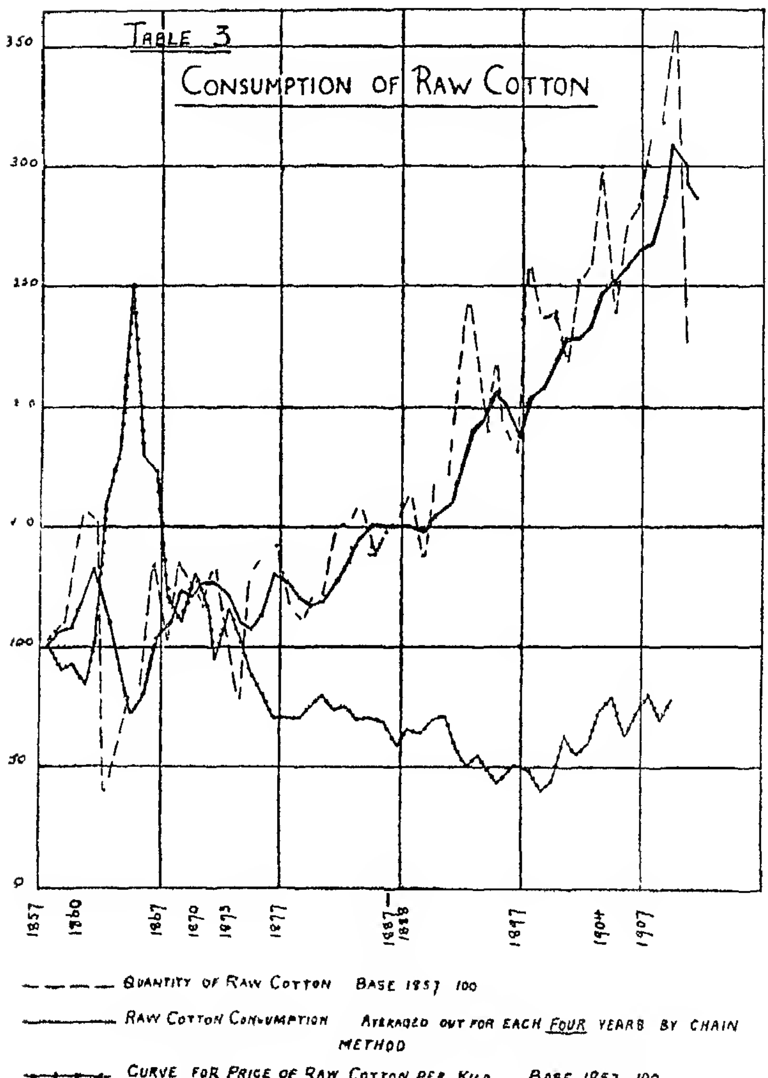
as 7,300 000 in 1911, it would represent between one-seventh and one-eighth of the British equipment, and as 9,400,000 in 1920, between one-sixth and one-seventh

Turning to the figures for weaving, the returns of looms collected are unfortunately even less systematic than in the case of spinning, there is less organization and less publicity except in the case of the Est where the information has been made available by the " Syndicat Cotonnier de l'Est " Table II, however, shows where development has taken place, the modern figures are probably under-estimates

As the district lying to the N W of Lyons, of which Roanne, Thizy and Tarare are the chief centres, has all the features of a localised industry, it has been added as a fourth district for which returns are given France had a very large number of hand-looms after 1870, widely dispersed and variously estimated in numbers, many of these represented a part-time occupation dovetailing with agriculture, some worked on different textiles at different times, or on mixtures as do power-looms in the Nord to-day, there was a big margin not collected in weaving sheds, it is therefore the power-loom figures which can be interpreted most easily, although the persistence of the hand-loom renders them a less valuable index of the amount of cloth produced at different times The figures are subject to many of the same remarks which have been made in connection with spinning machinery

In weaving, as in spinning, the Est shows the most striking development in spite of and, in part, in consequence of the loss in 1870, a noticeable feature is the relatively slight importance of the Nord in pure cotton weaving, Amiens and St Quentin are weaving centres whose returns do not go with other districts, they could not be included with the Nord as they do not form part of that economic group Normandy appears to be maintaining its position and no more Roanne district has shown expansion since 1870 Taking 120,000 power-looms for the French industry in 1912, it would be one-sixth of the magnitude of the British industry The number of looms to be added for Alsace is 46,000, and it was estimated that the Roanne group had still 20,000 hand-looms or at least looms scattered in the weavers' homes although they might be driven by electric power

Table III shows the gross and net import of raw cotton in kilos and the variation in price per kilo since 1857 There is a notable rise in consumption in 1860 and 1861 which does




not seem a favourable point for the manufacturers' case against the Commercial Treaty of March, 1860, as being the main cause of the depressed condition of the industry for the next ten years The years 1862–65 are clearly abnormal owing to the events in America 1867 is a year of financial

and commercial crisis in France as in England 1870–73 are again abnormal owing to political events and the loss of Alsace 1874 begins a more normal period of growth 1881 and 1892 are years of tariff change The years 1905–09 show rapid expansion

The difference between the import and the consumption figures shows the degree to which France acts as an entrepot to other countries The following are the returns for the three years 1908–10 which explain where this re exported cotton is despatched

RAW COTTON EXPORTED

| | 1910 | 1909 | 1908 |
|---|---|---|---|
| England | 41 777 | 25 692 | 26 727 |
| Belgium | 196 156 | 147 694 | 131 941 |
| Germany | 342 032 | 309 034 | 238 666 |
| Switzerland | 36 473 | 21 807 | 25 641 |
| Other Countries | 274 909 | 112 879 | 64 958 |
| Q M | 891 347 | 617 106 | 487 933 |

1 Quintal = 100 kilos = 220 lbs

The French cotton consumption in actual bales was 945,815 in 1911, which is to be compared with 3,384,480 for Britain Thus the comparative fraction is for spindleage between one-seventh and one-eighth, for looms one sixth, for raw cotton, between one-third and one-fourth

The three tables relating to equipment and raw material may be supplemented by a short summary of the census returns showing the amount of labour used by the industry and the number of establishments employing more than six workpeople at the last three quinquennial periods

| | TOTAL OCCUPIED | | | NUMBER OF ESTABLISHMENTS employing more than six people | | |
|---|---|---|---|---|---|---|
| | 1906 | 1901 | 1896 | 1906 | 1901 | 1896 |
| Spinning | 43 500 | 34 400 | 34 200 | 197 | 197 | 227 |
| Wadding | 550 | 350 | 400 | 19 | 19 | 18 |
| Doubling & Winding | 4,500 | 4 400 | 3 300 | 47 | 47 | 47 |
| Wick | 550 | 500 | 6 600 | 12 | 12 | 12 |
| Weaving | 118 100 | 125,900 | 121 800 | 456 | 456 | 584 |
| Total | 167 200 | 165,550 | 160,300 | 731 | 731 | 888 |

Of the 167,000, 75,000 are males and 92,000 females, these figures may be compared with the returns of the British Census of production, 1906, for the cotton industry, which show a total of 573,000 occupied 220,500 being males and 252,500 females, the fraction is therefore two-sevenths

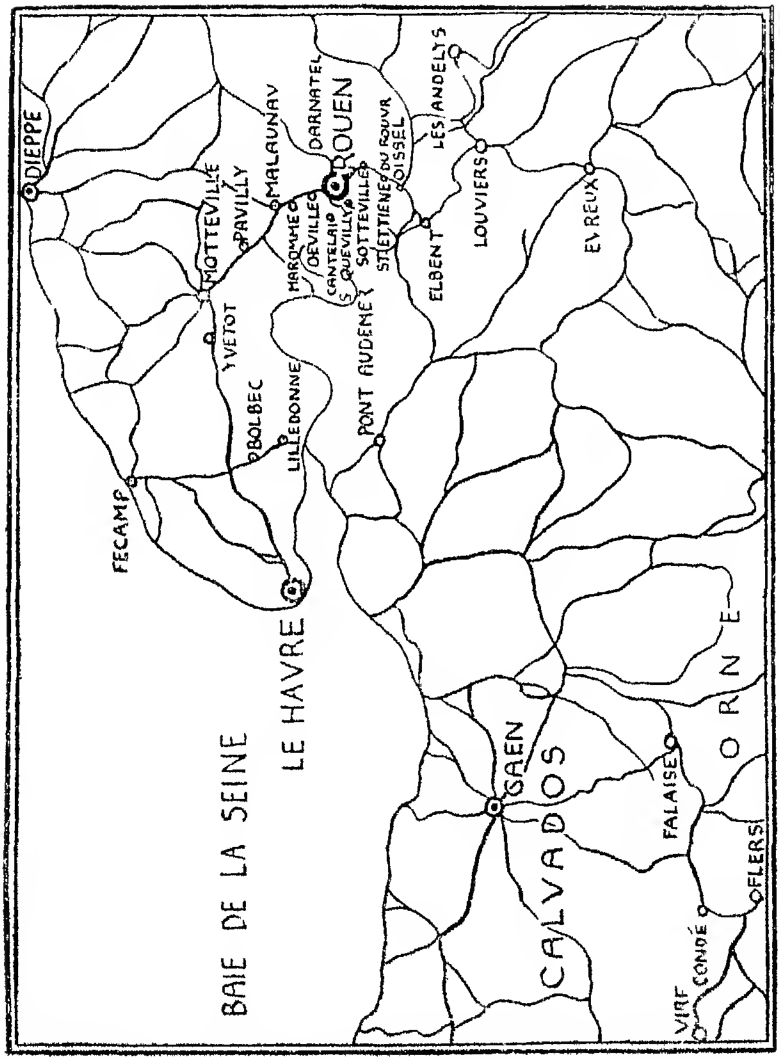
### THE GEOGRAPHICAL DISTRIBUTION

Passing to consider the geographical distribution of cotton spinning and weaving in France it is found that in the case of spindleage well over 95% of the total can be found in three fairly well-defined areas, Normandy, the Nord, and the Est in the case of weaving, similarly, over 87% can be found in three districts, Normandy, the Est, and the Roanne group There is, therefore, a certain well-marked localization, although it falls short of the intensity of concentration seen in England

### NORMANDY

The Norman group may be described first It is the oldest home of the cotton trade and has of recent years had greater difficulties than other localities in maintaining its position The geographical and economic centre is Rouen, the area over which the factories are spread is that of the departments of the Seine-Inferieure and Eure, but there is the survival of a formerly considerable industry in western Normandy in the departments of Calvados, Orne, Eure, and Loire The chief places associated with the industry, starting from the mouth of the river, are Le Havre, the port of arrival of the greater portion of the raw material, and the seat of the French cotton exchange, Bolbec and Lillebonne, Yvetot, Pavilly, Barentin, Malaunay, Maromme, Rouen, Darnétal, Sotteville, Petit Quevilly, St Étienne du Rouvray, Oissel, and Les Andelys, together with Flers, Vire, and Condé-sur Noireau in the west It is therefore in a comparatively small area that the cotton trade is found, measuring roughly 25 miles each way from Rouen up and down the Seine basin in small towns and villages, from Motteville to Les Andelys, as will be seen from the accompanying map

The main reasons which have led to the establishment and growth of the industry in this locality may be mentioned without elaboration There was the presence of the older textiles, wool and linen, with a labour supply easily adaptable and accustomed to machines of the same character, lending itself to the start of similar work, the nearness of the sea,




— RAILWAYS

NORMANDY shewing centres of COTTON PRODUCTION

which kept down the cost of the raw material at a time when transport was costly, slow, and difficult, and which allowed of the relatively cheap import both of coal and capital outfit from England The presence of a good supply of water was a necessity for the dyeing, bleaching, and finishing processes, and that was available in the Seine valleys A certain importance should also be attached to water power, it may seem that the hydraulic H P developed is insignificant to-day, but the Norman industry is not one of the recent creations of Europe, and the report of 1899 on the use of hydraulic power in French industry shows that 90 establishments (not necessarily separate firms) were still using water power as an auxiliary to the extent of 3,200 H P in this region

As can be seen from the tables of spindles and looms, the last 50 years have seen no significant growth in the equipment of the industry There has, however, been a distinctly increased concentration of the mills within the area, whereas formerly they were widely dispersed through the region With the coming of modern technical equipment, necessitating large motors, and large scale production, they have shifted to Rouen, and the outlying districts have decayed This is in part illustrated by the following return

| | Seine Inferieure | Eure | Western Group |
|---|---|---|---|
| 1860–5 | 1 254 500 | 449 000 | 290 000 |
| 1907 | 1 200 000 | 264 000 | 160 000 |

But this does not bring out the fact that within the Seine Inferieure itself there has been a drift towards Rouen in localization that the establishments in the Eure which are mentioned are near to the same town, and that the size of the firms in the outside groups is much below the average

| | Spindles | Estabs | Average |
|---|---|---|---|
| 1907 Seine Inférieure | 1 200 000 | 51 | 22 000 |
| Eure | 264 000 | 16 | 16,500 |
| Western Group | 160 000 | 13 | 12 300 |

The following is the distribution of labour by localities according to the returns of 1896, 1901, and 1906

| Department | Spinning | | | Weaving | | |
|---|---|---|---|---|---|---|
| | 1906 | 1901 | 1896 | 1906 | 1901 | 1896 |
| Seine Inférieure | 10 070 | 8 891 | 8 177 | 22 076 | 23 896 | 27 651 |
| Eure | 1 410 | 1 657 | 1 921 | 4 573 | 3 882 | 4 195 |
| Orne | 687 | 837 | 700 | 7 610 | 8 054 | 9 142 |
| Calvados | 681 | 623 | 885 | 1 662 | 2 058 | 2 154 |
| Eure et Loire | 595 | — | — | 335 | 1 393 | 1 205 |

It will be noted that the predominance of the Seine Inferieure is greater in spinning than in weaving

### THE NORD

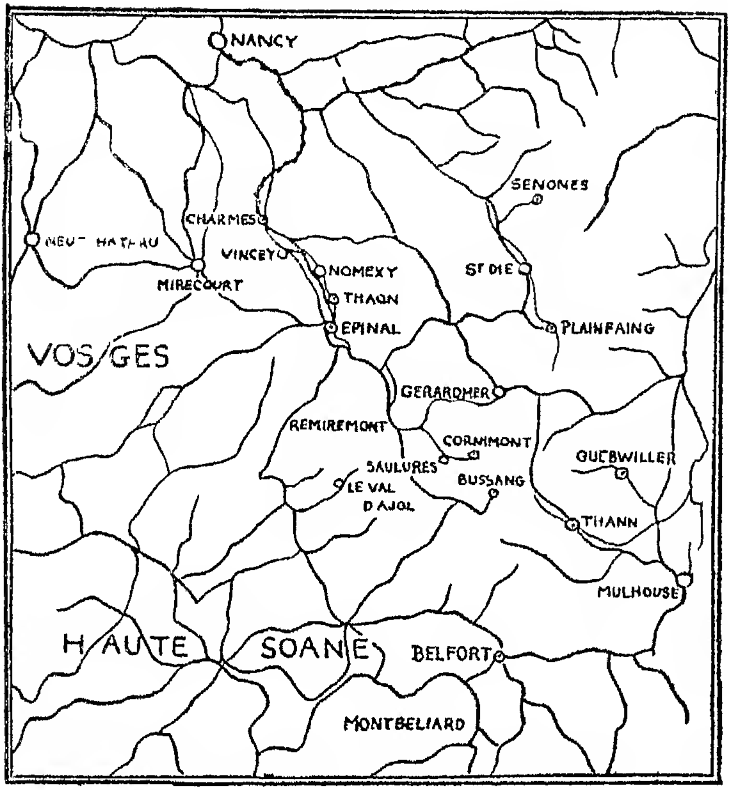
The department of the Nord with its important mining and engineering industries, stands pre-eminent as the chief centre of the textile trades in France It will be noted however, from the statistical return that while the spinning equipment amounted to 2,400,000 spindles in 1910, yet there were only 5–6,000 power-looms, and even this number is uncertain owing to the different uses to which the same loom may be put The yarns so generally produced in this district form the raw material for the manufacture of lace, embroidery, hosiery, cambric and mixed tissues The chief seats are Lille and its neighbourhood Roubaix, Tourcoing, La Madeleine, Hellemes, Loos, Haubourdin, and Lambersant

The intensity of concentration is therefore considerably greater than in Normandy because everything of importance can be included within seven or eight miles of Lille, there is even in this district further specialization by locality, because Lille and its suburbs can be differentiated by the character of their production from the Roubaix-Tourcoing group It is also noticeable that in this case there is no evidence of a scattered industry in the past, it is always Lille and its surrounding in which the industry has grown, the two forces which usually scattered mills, dispersed labour and water power do not operate

There seems little need to insist upon the advantages which this district offered to the cotton trade, there was the nearness of the seaboard, the presence of the coalfield, the association with two other textiles, wool and linen, and the presence of an ample labour supply The region has also stood to gain by the improvements in railway and canal transport

The total number employed in spinning was in 1906, 18,613, in weaving, 3,172


THE NORD AND SURROUNDING REGION




—— RAILWAYS

THE EST shewing centres of COTTON PRODUCTION

THE EST

The region of the Est which includes the departments of the Vosges, Meurthe et Moselle, Haute Saone, Doubs, and the territory of Belfort, is now, as will be seen from the tables, the chief and most rapidly growing centre of cotton production in France with 3,000,000 spindles and 66,000 looms The economic centre of the district is Épinal (29)[1], and it is the head-quarters of the raw cotton and yarn agents as well as of the employers' "Syndicats", the factories are spread out

[1] Population at census of 1896 in 1000s

over a district, bounded roughly by Mirecourt and Charmes on the north-west, St Dié to Le Ballon d'Alsace on the east Belfort to Remiremont on the south and west, except for Belfort, it may be said that the district is within the 30 miles radius of Épinal

The centres of production include Épinal, Belfort, Mirecourt, Charmes, St Die (22),[1] Remiremont, Montbeliard, Thâon, Cornimont, Bussang, Senones, Renchamp, La Bresse, Gérardmer, Val d'Ajol, Plainfaing, Arches, St Maurice, Nomexy, and many other villages dispersed throughout the region

Before 1870 the Est region had its centre at Mulhouse where the dyeing, bleaching and printing establishments were concentrated, and in the earlier part of the XIX century there was only a small amount of spinning in the Vosges The greater part of the firms had weaving sheds of comparatively small size, 50, 100 to 200 looms, they were often the ventures of foremen and enterprising workmen, assisted in part by Mulhouse agents, who saw how to utilise the scattered population and water power of the valleys, their goods, mainly calicoes and drills, were sent by waggon to the merchants, and the Mulhouse market regulated the production The loss of Alsace, therefore, meant far more to this district than to the other centres of production For Normandy, the Nord, and Roanne, there was a gain, because a powerful competitor in the home market possessing the most perfect equipment of that day, and including many of the most able manufacturers, was suddenly removed outside the protected market For the Vosges it meant a total reconstruction of the industry, the district found itself cut off from the economic group of which it had formed part From 1870, therefore, a new commercial and industrial organization has been built up around Épinal, this reconstruction was facilitated by the system of transport by rail and canal, which the French Government created, important bleaching and dyeing works were started at Thâon, and printing works at Champ du Pin, Épinal Something of the success of this advance was due to the number of Alsatian immigrants who came to refound an industry in which they had lifelong experience It can therefore be said that the Est is the offspring of Alsace in a double sense, before 1870 its growth was part of the expansion of that region, and after 1870 its growth was a consequence of the loss of that district to France

M Lederlin, who, together with certain of his business colleagues, has briefly described the rise of the Vosges industry, remarks that the reasons for its expansion in such a locality, are not wholly obvious It is distant both from raw material, which must be brought from Havre or Marseilles, and from coal, which must come from the Nord or the Saar, it has also to bear the considerable transport charges on its equipment

There is however, no difficulty in stating the causes which first of all attracted the factories, namely the presence and expansion of the Mulhouse industry, the availability of hydraulic power, and the scattered labour supply of the villages, "the plant" says one witness before the Commission of 1870, "is proportionate to water power and labour" When an industry has once settled in a region it creates in its growth and specialization strong reasons for not changing, but French business men familiar with the conditions, hold that there are two points in which the Est has advantages of a semi-permanent kind, these are the steadiness and efficiency of its labour supply in a district where agriculture and transport are the alternative occupations, and the special level of organizing ability possessed by its employers, who are drawn from many subordinate grades of labour and who carry on the Mulhouse tradition of openness to new ideas How far these claims can be supported will be touched upon in dealing with the working conditions

The importance of water power in the Est may be judged from the following particulars, the hydraulic motors utilised by industry gave in the Vosges, 16689 H P in Doubs, 13,300 H P in Haute-Saône, 6 720 H P in Meurthe et Moselle 9,850 H P and this falls short of what might be rendered available according to the report of 1899

The returns for the cotton industry are —

| | Vosges | | Haute Saône | | Doubs | |
|---|---|---|---|---|---|---|
| | Estabs | French H P | Estabs | French H P | Estabs | French H P |
| Spinning | 12 | 1 686 | 3 | 158 | — | — |
| Spinning and Weaving | 7 | 1 494 | 1 | 25 | 2 | 310 |
| Weaving | 89 | 2 920 | 8 | 253 | 1 | 24 |
| Jointly with other industries | 22 | 1 840 | — | — | — | — |
| Total | 130 | 7 940 | 12 | 436 | 3 | 334 |

There were therefore no fewer than 145 firms using water power to the extent of 8 710 H P

There has been no considerable change in the localization of the industry recently, except that new firms starting after 1870 naturally have not taken account of water power with its awkward necessity for duality of motors and have settled down nearer the main lines of communication, the employers' union speaks of an increased concentration of the larger enterprises nearer Épinal

The district of St Dié is distinguished by its special product, coloured goods, and remains apart from the Vosges in organisation and interests

The total number occupied in spinning and weaving is shown in the census returns as follows

| | Spinning | | | Weaving | | |
|---|---|---|---|---|---|---|
| | 1896 | 1901 | 1906 | 1896 | 1901 | 1906 |
| Vosges | 4 050 | 3 995 | 6 072 | 28 917 | 31 671 | 32 168 |
| Meurthe and Moselle | 550 | 760 | 1 188 | 1 469 | 1 816 | 2 058 |
| Doubs | 454 | 654 | 726 | 1 456 | 1 771 | 1 855 |
| Belfort (T ) | 1 476 | 568 | 1 201 | 4 793 | 5 777 | 5 712 |
| Haute-Saone | 704 | 664 | 1 016 | 3 321 | 3 947 | 3 873 |
| Total | 7 234 | 6 641 | 10 203 | 39 956 | 44 882 | 45 666 |

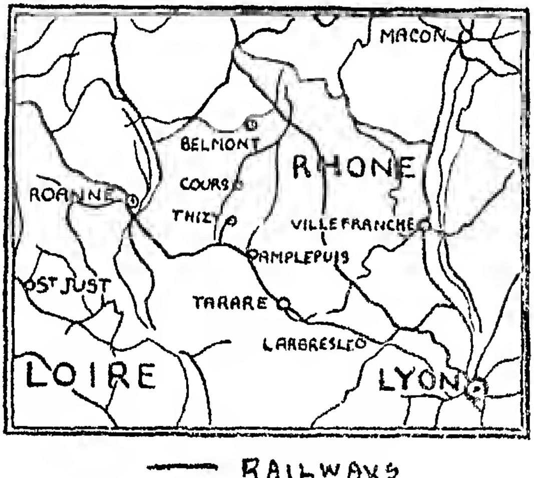
Almost 12,500 of those returned for the Vosges were occupied in St Dié

### THE RHÔNE–LOIRE

The last district which can be ranked as a distinct economic group, is that lying to the north-west of Lyons in the departments of the Rhône and Loire, of which Roanne, Tarare, Thizy, and Villefranche are the chief centres of production It is purely a weaving locality, confining itself to special classes of goods, chiefly coloured woven goods, fine fabrics, and muslins, it finds employment for over 19,000 workpeople, and its equipment consists of over 20,000 looms mainly of the Jacquard type, the spindleage of the region is insignificant, being under 100,000

It was only after 1870 that the power-loom was introduced and Roanne was specially associated with the growth of the mechanical industry, Thizy and Tarare are 14 and 26 miles respectively from Roanne While the power-looms are

mainly in the Roanne-Thizy region, there were estimated to be still in 1912 almost 20 000 scattered domestic looms in the Tarare and Amplipuis group and Dechellete forecasted a considerable future for this side of the industry in 1910, an electrical company had been started, which hoped to distribute power to all the villages within 30 to 40 kilometres of Roanne, the hand-loom was to become the domestic power-loom driven by motor, either electric or gas This transformation had already taken place in the St Etienne ribbon industry where, as early as 1905 over 10 000 domestic power-looms were operated by the distribution of electric power




THE RHÔNE LOIRE

rise of this district illustrates how the cotton industry can work its way gradually into the domain of another textile, until finally it can closely imitate and oust it in special classes of work The introduction of cotton into the mixed tissues with silk was followed by pure cotton imitations of silk goods through the processes of mercerization and similization The presence of an old textile industry and labour accustomed to high-grade weaving on hand-looms, together with a good supply of water for the dyeing, bleaching and finishing processes, explain the presence of this cotton enclave in the domain of silk

Although the coalfield of St Étienne is near, that has given the district no great advantage, and the carriage on yarns has to be paid from Rouen, Lille, or Épinal

The returns of workpeople occupied are for weaving —

| | 1896 | 1901 | 1906 |
|---|---|---|---|
| Loire | 11 493 | 13 095 | 12 419 |
| Rhône | 7 753 | 7,412 | 6 604 |

Eight weaving sheds used water power to the extent of 151 H P as auxiliary motive power

SECONDARY CENTRES OF PRODUCTION

Before making some mention of certain scattered centres of production and of the related industries which draw upon the yarns as raw material for their products, it may be useful to point out the degree of completeness with which the regions described cover the total French equipment and labour supply

As regards equipment it can be clearly seen that the estimates of the spindles for the three main districts cover an exceedingly high percentage of the total, at least 95 and even for weaving, where the returns are not systematically collected and where the figures are rather the calculations of well-informed business men and factory inspectors, it cannot be less than 80–87

The census returns can be used to check this conclusion, they yield the following results —

| 1906—Total Occupied in Spinning and Doubling | | 1906—Total Occupied in Weaving | |
|---|---|---|---|
| All France | 46 000 | All France | 117 003 |
| In the Est | 10 203 | In the Est | 45 666 |
| In the Nord | 18 613 | In the Nord | 3 172 |
| In Normandy | 13 443 | In Normandy | 36 250 |
| | | In Roanne | 19 020 |
| Total | 42 259 | Total | 104,108 |

So far as spinning is concerned, there is no scattered production to speak of, Picardy (the departments of the Somme and the Aisne) had, in 1907, seven small concerns with a total of 120,000 spindles, employing 1,490 workpeople, in the same year Mayenne, a textile centre of some importance in the past, had three concerns with 50,000 spindles employing 468 workpeople, there are a few mills in outlying districts with from 6,000 to 10,000 spindles each

The concentration is not so intense in the case of weaving, as there are still centres of secondary importance in Picardy and Mayenne Amiens has a very considerable production of fustians, and in the department of the Somme, in which this town is situated 2,260 workpeople are occupied in cotton weaving and over 2,000 on fustians For the fustian manufacture the cotton yarn is purchased from Rouen and Roubaix, the cloth is woven at Amiens, then raised cut dyed, and finished there Each process usually constitutes a separate industry except dyeing and finishing, which go together, but there was a tendency to integrate management St Quentin is estimated to have 4 000 power-looms together with 1,000 more in the surrounding districts, the number of the workpeople engaged in cotton weaving was, in 1906, 4,150 for the department of the Aisne Many St Quentin manufacturers have depots in the surrounding villages where weaving and embroidery are carried on and dovetailed with agricultural pursuits

The number occupied in cotton weaving in Mayenne was 4,793, 224 firms employed 1 to 20 five firms, 201 to 500, Laval being the chief centre Cholet, in the department of the Maine-et-Loire, was once the centre of a district of some importance in cotton production but it had, in 1906, only two weaving establishments employing more than 100 workpeople and the district is now notable for linen and not for cotton goods

When these districts are allowed for, the distribution of the whole industry is explained

## CHAPTER II

### RELATED INDUSTRIES

It is not the purpose of this description to deal with related industries except in so far as it is necessary to preserve a sense of proportion and to give certain information of assistance in appreciating the markets of the spinning and manufacturing branches

With this object a brief reference may be made to (*a*) dyeing, finishing, bleaching, and printing, (*b*) cotton hosiery, (*c*) lace and embroidery, and (*d*) passementerie and ribbons

(*a*) Dyeing, finishing, bleaching, and printing exist both in connection with spinning and weaving, and independently

The Seine-Inferieure accounts for over 6,000 of those employed, it had at the census of 1906, three yarn dyeing firms, three for tissues, three for finishing, two bleaching works for yarn and tissues, and eight printing establishments for "Indiennes," one of the Norman specialities in cotton Most of the firms are in the immediate neighbourhood of Rouen on the rivers, and the factory inspection gave in 1906, 40 establishments occupying a total of 4,668, of whom 3,119 were males over 18, 762 women over 18, and 787 between 14 and 18 The printing trade occupies over 2,000 men, and the women were all employed in bleaching and finishing as they were not permitted to work at dyeing or printing In the Eure, over 800 were employed in bleaching yarn and cloth

The figures of those occupied in the Nord were 12,500, but it must be remembered that Roubaix, Lille and Armentiéres were the head-quarters of the woollen and linen, as well as of the cotton industry, 29 firms had more than 100 workpeople, four dyed yarn and four tissues, 16 were finishing works and five were bleaching establishments

In the Vosges the chief dyeing establishments are at Thaôn-les-Vosges, the Est found itself deprived of dyeing and finishing establishments in 1871, and in 1872 a committee of the leading spinners

at Épinal an " Indiennerie " which the Est had also lacked, and this firm has paid special attention to the colonial market St Dié, which devotes itself to coloured goods in imitation of woollen and linen products and to hosiery, had small dyeing and finishing works employing over 300

The Rhône-Loire region found employment for 14,500 but it was for the silk rather than for the cotton industry that much of its work was done, in the Roanne group which specialises in coloured woven goods, the dye-works were compelled to keep in close touch with manufacturing, and to follow the progress of chemical discovery during recent years also the small isolated producers combined in a limited liability company which held a district monopoly, this was opposed by a new company organized by the weavers, but by agreement these two were fused and outside of this combine there were only a few small firms The yarn imported is generally bleached and dyed in the district prior to being woven, the bleach-works are small and are to be found on the outskirts of Roanne on the banks of the streams, finishing is mainly in the hands of two firms which each represent amalgamations of smaller units

The printing trade was estimated to have an equipment in 1914 of 90 roller printing machines in Rouen district 30 in the Vosges, seven in Lyons district, roughly 130 for all France, but Alsace alone had 160 in Mulhouse, Thaôn, Wesserling and district

(*b*) Cotton hosiery is manufactured chiefly in the departments of the Aube and Somme, which account for 57 and 8 per cent respectively of those occupied in the industry

The chief centre of production is Troyes, a town of 50,000 to 60,000 people, lying 104 miles south-east of Paris on the main line to Belfort, in this together with less important centres such as Arcis-sur-Aube, noted for finer goods, Nogent-sur-Seine, noted for coarser wares, and in Romilly, 12,680 persons, apart from home workers were occupied in 680 factories In Troyes itself, there were 70 factories, 47 employing less than 100, 11 from 100 to 250, eight from 250 to 500, three from 500 to 1,000 and one over 1,000, a total of about 9,000 hands Stockings, socks and underclothing were the chief articles, about two-thirds being cotton and the rest wool, small amounts of silk hosiery and of goods of water-proofed texture are made Other localities associated with hosiery are Moreuil, in the Somme, and Roubaix in the Nord, St Dié

in the Vosges producing underclothing and jerseys The total number of work-people employed is over 32,000 for the whole country The chief market is in France but there is a considerable export to America and to Britain

In the Aube, the goods are not made under the same roof from first to last, the mechanical part of the work may be done in the factories and the cutting, mending, embroidery and making-up of underwear given out to women in the town, who receive 25% less than for similar work in the mills, or again the rural workers may rent looms from the manufacturers or even from the persons with only a finishing-room, these work-people are half peasant and half urban, they have their house, garden and fields, part of the house is the workshop and the manufacturers install the plant to be used for his orders only, rarely the home-workers may own their own machines

It was estimated that the home-workers produced one-fifth of the hosiery made in the department

Earnings of the power-frame workers in factories were generally indicated by the following figures in 1907–9

| Power Frame Workers in Factories | | Home Workers |
|---|---|---|
| Cotton s Patent | 36/- to 48/- | 28/- to 33/7 |
| Rotary | 36/- to 44/- | 24/- to 31/2 |
| Paget | 30/- to 36/- | 16/10 to 24/- |
| Circular | 34/- to 36/- | 24/- to 28/9 |

But changes in the garments or parts of garments which each worker has to make as well as the quality of the material are important factors in causing large variations

(*c*) The lace, net, and embroidery trades found employment for over 156,000 persons the distribution being 23,000 for machine-made lace 34,000 for hand-made lace, 11,000 for machine embroidery and 61,000 for hand embroidery The chief centres of production for machine-made lace were Calais, Caudry, and Lyons, the first two being direct competitors of Nottingham and Plauen, the department of the Pas de Calais ranks first with 52% of the total occupied, followed by the Nord and the Rhône with 15% each

For hand-made lace, the Upper Loire was the chief department, employing 58% of the total number engaged in the industry

St Quentin was the centre of the machine embroidery trade, and the Aisne Department, in which it is situated, accounted for 50% of those occupied, it was followed by the Nord, 22%, and Rhone, 13% Hand embroidery is a widely-dispersed industry but 38% of the workers were in the Vosges and the Meurthe et Moselle where Nancy and Mirecourt are the chief towns engaged in the industry Normandy produced net embroidery, Lyons and Tarare dealt with silk While it is not possible to state precisely the proportion of lace output which is cotton, two-thirds is the estimate given

The war produced considerable disarrangement and loss to the machine industries as both Caudry and St Quentin were in the area of destruction together with the towns of the Nord The exports of machine-made lace were in 1912–13 valued at 60 000,000 francs, and it was sold in foreign not colonial markets, the chief customer being the United States, of hand-made lace, the value was 5,000,000 francs but it must be kept in mind that this figure omits the lace which is exported on hats and costumes, as well as much of that which goes through the postal service The figures for tulles were 19,491,000, and for embroidery, 20 600,000 francs (See chapter IV for fuller treatment) The articles produced in Calais hold a very high position for fineness and general beauty of design, the gauges being finer than in Nottingham, Caudry manufactured the cheaper qualities and St Quentin was noted for lace curtains Among the machines used in France were "Levers," "Mahlers," four rangs, Babin, Kiddier, and Dietrich There were no less than 667 undertakings in Calais connected with the lace trade in 1907, and of these 500 were lace and net factories, there is a multitude of small manufacturers and many operations are performed by independent specialist firms, usually several makers are installed in the same building Designers were only kept on the staffs of the larger firms but there were over 185 independent designers and sketchers in 1907 The two factors which cause greatest trouble to the lace trade are (1) the changes in fashion, where either demand contracts or one textile displaces another, say silk for cotton, and (2) the changes in patterns, which mean a serious loss of time, beyond this there is the seasonal variation, the slack period being June to September The wages rates were for lace-makers, 56/– to 80/– per week, warpers, 24/– to 32/–, card-punchers, 28/– to 40/–, and embroiderers, 40/– to 48/–

St Quentin produces all kinds of embroidery from the plainest to the finest The manufacture of what is known as machine embroidery forms part of the output, it is comparable with the work of Plauen and St Gall, and the Bonnoy machine, Swiss hand-machines and power-machines are all in use There were 55 firms in this trade in 1907 and it was estimated that there were 130 to 140 power-machines in the town with 100 more in the surrounding district Hand-machines were numerous, totalling over 2,700 in the town and district The work-people often bought their machines on an instalment system spread over five or six years the manufacturer who installed the machine agreed to provide a certain minimum of work and had an exclusive right to the operator's time until the machine was paid for Finishing workshops are numerous for embroidery, net and woven fabrics, there is also dyeing of woollen and cotton yarns Net and lace are made in considerable quantities, imitation Valenciennes like that of Barmen, and lace curtains form part of the output Embroiderers earned 29/– to 34/– per week for machine work, and 26/– to 29/– on hand work, curtain-makers, 29/– to 34/–, lace-makers 34/– to 48/– Lyons is of considerable importance in the lace and fine-net industry but its connection is with silk rather than cotton products

The hand-made lace trade has been nursed in the interests of agriculture and rural districts by the provision of technical training both at the expense of the State and private bodies, this took the form of definite training centres for apprentices in at least 12 departments and also travelling instructors for district work, among the centres were Nancy, Vesoul, Le Puy, Argentin, Caen, Bailleul, and in Paris there was a school of design

The minimum wage act of 1916 for home workers may prove a test for this class of work, which is usually dovetailed with agricultural pursuits

(*d*) Ribbon and velvet band making are chiefly associated with the district of which St Étienne is the chief town, those occupied in this " Industrie Stéphanoise " are distributed in the proportion of 50% in the Loire and smaller percentages in the Upper Loire, Seine, Rhône, Nord, and Eure

Cotton only enters into the mixed products, natural and artificial silk and schappe being the other components, the articles are similar to the output of Barmen, Elberfeld and Crefeld The industry has, therefore, minor significance as a

market for cotton yarns and its extent need not be detailed, but two points have a certain interest, the industry was conducted mainly on the domestic system of working the looms by electric power, the current being supplied by a company to the homes of the weavers, this system of supplying power attracted considerable attention in the Roanne cotton group and is being adopted, the second point was the critical attitude of the 'passementiers" to the cotton spinners whom they accused of enriching themselves at the expense of exporting industries

This general group of industries forms part of that background against which the price policy of the cotton spinners has to be considered Another feature of the general position should be kept in mind, in England it is a habit to regard cotton as the leading textile but this is not the French attitude, cotton is not the textile in which the comparative advantages of that country are most obvious Of the four chief textiles, two alone, the woollen and the silk, were capable of selling their goods profitably in the international market, the cotton industry proper especially the spinning branch, and the linen industry are, on the statements of leading industrials and on the evidence of foreign trade statistics incapable of marketing more than a very small portion of their production beyond protected zones

# CHAPTER III

## WORKING CONDITIONS AND INDUSTRIAL ORGANIZATION

THE French system of production, in its industrial as distinct from its commercial aspects, may be described by reviewing in the first place, the supplies of the raw material, the technical equipment, motive power, and classes of work, together with the amounts and efficiency of labour, management, and enterprise, which work conjointly in the industry

The consumption of raw cotton is given for the years, 1911–13 and 1920 in Table I, which also distinguishes between the three main sources of supply

TABLE I

CONSUMPTION IN ACTUAL BALES Each year ending August 31st

| | Spindles in Actual Work | American | East Indian | Egyptian | Sundries | Total |
|---|---|---|---|---|---|---|
| 1911 | 7 112 075 | 711 675 | 131 503 | 70 771 | 31 866 | 945 815 |
| 1912 | 7,146 810 | 804 516 | 82,538 | 73 727 | 27 062 | 987 843 |
| 1913 | 7,228 583 | 787 594 | 93 141 | 77 787 | 28 160 | 986 682 |
| 1920 | 5 658 630 | 514 072 | 43 835 | 53 751 | 18 141 | 629 799 |

The average for the pre-war period shows that for every bale of Egyptian, almost two bales of Indian and 11 bales of American cotton are employed, or allowing for the relative size of bales, the proportion would be 7 lbs of Egyptian to 8 lbs of Indian and 55 lbs of American staple Calculated per 1,000 spindles, the consumption of all kinds of cotton is shown in Table II, which brings out the amount used in France as compared with England, Switzerland, and Germany, it also appears from the returns of the International Master Cotton Spinners' and Manufacturers' Associations that France comes third in the smallness of the quantity consumed, and this is some indication of the attention given to finer counts

TABLE II

CONSUMPTION (ACTUAL BALES, ALL KINDS OF COTTON) PER 1 000 SPINDLES
Years ending 31st August

| | 1910 | 1911 | 1912 | 1913 | 1920 |
|---|---|---|---|---|---|
| Britain | 63 50 | 70 47 | 77 27 | 76 80 | 63 65 |
| Germany | 165 69 | 165 23 | 167 61 | 151 99 | 92 70 |
| France | 133 56 | 132 99 | 138 22 | 136 49 | 111 30 |
| Switzerland | 60 38 | 59 95 | 70 67 | 70 45 | 57 60 |

These figures are, of course much less than the import-statistics of raw cotton since a considerable number of bales pass through the hands of French agents for Belgium, Alsace, Switzerland, and other countries, and further, in the case of Indian and Egyptian material much is recorded in French statistics which is merely in transit to other countries and has not been procured through French agency The figures for the year 1910 illustrate this point according to Table I, the total consumption was 920,000 bales, but the amount entering France on the basis of the import bales was approximately, 1,250,000 bales

Of the ports of arrival, Le Havre is easily predominant, accounting on the average for more than three-quarters of the total import and including practically the whole of the American supply, it is only for the Indian and Egyptian arrivals that Marseilles, Dunkirk, and sometimes Antwerp, are used The Nord uses Dunkirk for its requirements of Egyptian cotton, the estimates given show as much as half of the total consumption of that commodity is imported here, Indian cotton also comes to this port, and to Antwerp for French consumption Marseilles is employed both for Indian and Egyptian cotton in transit to the Est and to other countries

With regard to the supply of raw material, which is mainly procured from Le Havre the three spinning centres are not equally well situated, the Rouen district has the advantage of proximity to the port and a low freight charge, the Nord is in an intermediate position, and the Vosges is very distinctly in the least favourable position for transport from Le Havre, the following estimate of the relative rates for raw cotton was made by Copeland for 1910–12, to Rouen 1/40d per lb, to Lille, 3/40d per lb, to Épinal, 6/40d per lb

## SPINNERS' STOCKS

The second way in which the raw cotton supply influences production is seen in the size of the stocks, which spinners consider it necessary to have by them to carry on their business

Le Havre, not being a market for Egyptian staple, that must be bought through Alexandria or Liverpool agents, and involves keeping a larger quantity in hand, a similar position is seen with Indian cotton This does not hold, however, of American, except for the Sea Island variety used in fine spinning at Lille, which may be ordered a year or two ahead

The returns in Tables III and IV are drawn up to show the stock in spinners' hands in bales on March 1st and August 31st of each season, and also the amount calculated per 1,000 spindles for four countries on these dates, and are taken from the tables of the International Federation Statistics

TABLE III

STOCKS OF COTTON IN SPINNERS HANDS INVISIBLE SUPPLY
BALES —1912 1913 1920

| | American | East Indian | Egyptian | Sundries | Total |
|---|---|---|---|---|---|
| 1912—March 1st | 123 983 | 16 504 | 27 716 | 10 059 | 178 262 |
| August 31st | 89 004 | 36,534 | 19 794 | 8 350 | 153 682 |
| 1913—March 1st | 127 789 | 25 467 | 32 822 | 13 286 | 199 364 |
| August 31st | 86 650 | 45 906 | 20 264 | 8 725 | 161 545 |
| 1920—July 31st | 88 621 | 24 409 | 23 009 | 11 019 | 147 058 |

TABLE IV

MILL STOCKS (ACTUAL BALES) CALCULATED PER 1 000 SPINDLES

| | 1911 | 1912 | 1913 | 1920 |
|---|---|---|---|---|
| France—March 1st | 23 32 | 24 91 | 27 66 | — |
| August 31st | 18 54 | 21 50 | 22 35 | 26 34 |
| Britain—March 1st | 8 20 | 8 92 | 10 25 | — |
| August 31st | 4 27 | 7 40 | 6 82 | 7 69 |
| Germany—March 1st | 30 62 | 31 79 | 34 54 | — |
| August 31st | 23 66 | 28 24 | 24 79 | 28 50 |
| Switzerland—March 1st | 16 32 | 22 12 | 22 74 | — |
| August 31st | 9 64 | 16 67 | 14 23 | 26 25 |

Table III shows the very high fraction of the total consumption which French spinners keep in hand, in the case of American cotton it is one-seventh to one-tenth, for Egyptian, one-third to one-fifth, for Indian, one-third to one-fourth, in other words, the spinner could run on American for six to eight weeks, on Egyptian for three to four months, and on Indian, from three to four months This is a feature in the policy of the industry which necessitates the use of a considerable amount of floating capital

Table IV brings out the greater relative reserves which are kept in comparison with English stocks In addition it must be borne in mind that there are business difficulties involved in buying a valuable raw material, which fluctuates considerably

in price over long periods One reason for this position has already been mentioned, namely, the difference in total consumption per annum per 1,000 spindles, but an examination of Table II with Table IV shows that whereas the average quantity used per 1 000 spindles is almost twice as much in France as in England, yet the reserve kept is three to four times as great

MACHINERY

The machinery comes from England and Alsace, but the proportion shows the predominance of Lancashire in standard lines, even in the Est where there is the traditional connection with Alsace and where on grounds of nearness, one might have supposed Alsatian goods to have a better chance, the estimate given was, four fifths English, and one-fifth Alsatian, and that one fifth was not the most modern, in the Nord, and in Normandy, English predominance is even more marked There are no French constructors but a minimum tariff of 12 francs per quintal (220 lbs) the weight *ad valorem* being estimated at 10%, is charged on all machines, and this, together with the various transport rates and expenses of fitting up, is calculated to raise the cost of first establishment by about 30% in the Est, and somewhat less in the Nord and Normandy

The claim of the Syndicat Cotonnier de L'Est, that modern French mills would stand comparison with the best in England, or the United States, appears quite justified, leaving out the matter of size, but it raises the question of the rate of renewal of equipment and of the proportion of relatively old equipment It is only possible to speak upon this from observation the general table of spindles for France (Ch I) shows that the total number has risen by 2 000,000 between 1890 and 1910, and by 1,500,000 between 1900 and 1910, on the total of 7 100,000 This new spindleage is mainly in the Est, and to a less extent in the Nord, as is shown in the district returns Periods of rapid increase in spindleage may also be assumed to be active times of renewal It is known that Normandy, although showing no increase in her equipment, has made extensive replacements since 1890 There is, in addition, the technical point that the most recent innovations those since 1890, in the case of the self-actor, etc have not made vital changes but have meant rather the perfecting of ideas already embodied in the machine, together with extension of

size This would lead to the view that a very considerable portion of the outfit is reasonably up-to-date Usual accountants' rates of depreciation for the machinery are 7 to 10%, which means that 15 years is considered well within the limits for physical deterioration as distinct from deterioration in value caused by new inventions Against this there is the presence of many small and semi-obsolete firms, especially in the country districts, and the view mooted before the Parliamentary Commission upon the state of the textiles in 1904, that wages in France were specially low because of defective equipment, that opinion was, however, not substantiated for cotton spinning Nevertheless it is somewhat curious to note the wide difference in technique which can exist between firms working for the same markets, it must mean that some establishments have ceased to take account of depreciation rates altogether The order of the districts as regards newness of machines is Est, Nord Normandy

M Lederlin has pointed out that the self-actor was only gradually displacing the mule-jenny during the late fifties of the XIX century In the Est (including Alsace), out of 1,510,000 spindles in 1860 985,000 were mule-jennies, even in 1870 there were 350,000 left The self-actor has never had in France that predominance which it holds in Lancashire, ring spinning was introduced in the eighties, and in two districts it exceeds the mule in number of spindles

The following two returns show the position for all France and for the different districts

TABLE V

COTTON SPINNING SPINDLES

| | Mule | Ring | On Egyptian | On Other | In Construction. | Spindles in work |
|---|---|---|---|---|---|---|
| 1907 | 4 078,000 | 2 676 100 | — | — | — | — |
| 1911— | | | | | | |
| Mar 1st | 3 988 466 | 2 990 401 | 1 511 900 | — | 129 900 | 6 979 000 |
| Aug 31st | 4 049,118 | 3 062 957 | 1 323 862 | 5 788 213 | 66 556 | 7 112 075 |
| 1912— | | | | | | |
| Mar 1st | 4 019 764 | 3 135 315 | 1 385 344 | 5 769 735 | 89 292 | 7 155,079 |
| Aug 31st | 3 967 536 | 3 179 274 | 1 439,632 | 5 707 178 | 73,640 | 7 146 810 |
| 1913— | | | | | | |
| Aug 31st | 3,925 622 | 3 302 961 | 1 560 293 | 5,668 290 | 48,624 | 7 228,583 |
| 1920— | | | | | | |
| Aug 31st | 2 677 518 | 2 981 112 | 1 208 858 | 4 449,772 | 404,834 | 5 658,630 |

TABLE VI

DISTRIBUTION OF MULE AND RING SPINDLES BY DISTRICTS
NUMBER OF SPINDLES ON EGYPTIAN COTTON

| DISTRICTS | MULE | | | |
|---|---|---|---|---|
| | Firms | 1907 | Firms | 1911 |
| Est | 68 | 1 054 000 | 50 | 868 000 |
| Nord | 58 | 1 991 000 | — | — |
| Lille | — | — | 18 | 1 048 000 |
| Roubaix Tourcoing | — | — | 22 | 587 500 |
| Normandy | 86 | 793 600 | 52 | 516 000 |
| Rest | 33 | 202 000 | — | — |
| Isolated | — | — | 32 | 478 300 |
| Independent | — | — | 49 | 491 000 |
| Total | 245 | 4 089 000 | 223 | 3 988 500 |

| DISTRICTS | RING | | | | ON EGYPTIAN |
|---|---|---|---|---|---|
| | Firms | 1907 | Firms | 1911 | 1911 |
| Est | 68 | 1 298 000 | 50 | 1 048 000 | 217 000 |
| Nord | 58 | 351 000 | — | — | — |
| Lille | — | — | 18 | 140,300 | 736 000 |
| Roubaix Tourcoing | — | — | 22 | 210 000 | 74 400 |
| Normandy | 86 | 824 500 | 52 | 755 000 | 51 000 |
| Rest | 33 | 251 000 | — | — | — |
| Isolated | — | — | 32 | 269 800 | 160 000 |
| Independent | — | — | 49 | 567 500 | 272 000 |
| Total | 245 | 2 676 000 | 223 | 2 990 000 | 1 511 500 |

Unaccounted for in 1907 21 Firms
1911 25 (221 000 spindles)

| | | | |
|---|---|---|---|
| 1907 Est Spinning | American | 1 665 000 | |
| " | Egyptian | 402 000 | |
| 1911 " " | American, | 2 205 000 | |
| " " " | Egyptian, | 571 000 | |

It can be observed that the self-actor is not increasing in numbers, and that within the last 20 years the ring frame has gained considerable ground In Normandy, where the mule was formerly the chief system of spinning the numbers were equal by 1904, and the tendency when plant was renewed was to displace the mule by the ring frame, so that by 1911, the "continu" was looked upon as the method of the future In the Est the same tendency operates as in Normandy, and the ring frame is acquiring an ever increasing proportion of

the work In the Nord alone ring spinning is relatively unimportant, and the greater part of the 350 000 spindles which are found there are in the Roubaix-Tourcoing area

As doubling is usually conducted in France as part of the work of ordinary spinning establishments it is difficult to provide reliable estimates of its amount, it was reckoned in 1907 that there were at least 700,000 doubling spindles in France, Lille accounted for 472,000, Roubaix-Tourcoing and district for 150,000 the Est for 50 000, and the Norman and scattered groups for 50,000 The census of 1906 gave returns for 53 firms, employing 3,100 work-people

Turning to the weaving equipment, it comes from French, Swiss and German makers, as well as English, and includes a large number of Jacquard and Dobby looms especially at Roanne and St Dié It is in no way inferior to English outfits, apart from the smaller size of the mills As there is a considerable portion of foreign equipment, it is relatively costly to put in working order owing to tariff and transport charges

The power-loom became the usual method of weaving at a much later date in France than in England, it is only after 1870 that it gains a firm hold, and only after 1880 that it becomes dominant, even in 1890 estimates of looms include as many as 30,000 hand-looms, according to the census of 1906, there were 1,104 overseers for home weaving, and over 8,500 work-people are recorded as engaged in cotton weaving, but isolated from factory establishments, while another 3,000 are classed in establishments with less than five wage-earners Observers place the number of hand-looms in France in 1913 at 27,000, of which 20,000 are in the Rhône-Loire From the general table (Ch I) it can be seen that the Est accounts for the greater part of the increased equipment, Roanne district has undergone considerable development Normandy shows a substantial increase so far as Seine-Inférieure and Eure are considered, but the western group formerly a great hand-loom weaving centre, has greatly decreased

From 1900 onwards the automatic loom began to be introduced, and its advantages and disadvantages for the French classes of trade were canvassed In the evidence before the Parliamentary Commission in 1904 it was referred to as an interesting experiment, rather than as a feasible commercial proposition Only four firms in the Est had at that time given it a trial, in St Quentin one manufacturer stated that he had

installed a number but had been compelled to give them up both on account of the inefficiency of labour and the character of the work For the "standard" work, however, in the Est and Normandy, they are gradually winning their way, there were at least 3 000 in the Est in 1910 To account fully for the attitude of the French manufacturers towards the automatic loom requires a consideration of the classes of goods produced and the relative amounts of labour and capital usually combined in weaving

MILL STRUCTURE

The capital expenditure upon land and buildings calls for comment in one or two directions, the most usual structure of spinning mill is that which is familiar in Lancashire, but there are a considerable number of the shed type especially in the smaller towns and country districts, ground being cheap, the advantages are the facility of supervision, the easy arrangement of the machines, lack of necessity for transport from storey to storey, and the gain in transmitting power, the difficulty is the regulation of the temperature for different counts and machines The weaving sheds are now mainly of the familiar saw-tooth kind, although there are survivals and adaptations of other types The tendency which Mr Delin and other investigators have noted in Continental countries, to spend more upon mill buildings than could be justified from the standpoint of the balance sheet is observable more especially in the small towns, the concerns being for the most part owned and managed by private individuals, there is often considerable pride taken in the undertaking This feature together with the greater cost of building in France means that the capital expenditure is once more weighted against the French industrialist

M Casimir Berger noted in 1911 that during the two years preceding that date, there had been a great increase in the number of sprinklered installations in mills, due in part to the fall of the cost of installation, many firms had thereby reduced their fire insurance premiums by 45 to 60% On behalf of the French Association he asked for information as to the proportion of sprinklered and non-sprinklered concerns, firms representing 5,016,000 spindles replied, 3,081,600 were sprinklered and 1,934,467 non-sprinklered The percentage of sprinklered was therefore 62 as compared with 88 for England

The following were the minimum rates of insurance for certain countries in 1911, for a two-storey fine cotton spinning mill of 30,300 spindles with sprinklers

| | England | Germany | France |
|---|---|---|---|
| Sprinkler | $\left\{\begin{matrix}1\ 46\\1\ 28\end{matrix}\right\}$ fr per 1 000 | 2 1% | 1 80% |
| Non Sprinkler | 5 54 | 4 2% | 3 60% |
| (Non Tariff Cos) | $\left\{\begin{matrix}1\ 35\\1\ 05\\4\ 19\end{matrix}\right\}$ | — | — |

The average rates were distinctly higher, the view of the International Federation was that a mutual insurance company could work satisfactorily on a premium of 1 fr % (2/- per cent)

MOTIVE POWER

The cost of motive power differs from that in Lancashire mainly owing to the difference in the cost of coal, there is no inferiority in the engines employed Owing to the difficulty with fuel, French spinners and weavers have paid considerable attention to the cheapening of power taking advantage of new ideas rapidly, owing to the cost of carriage they prefer to employ coal of high calorific value, and therefore it is difficult not to mislead in giving a range of prices

The returns given indicate average prices at the pit head

| | France | England | Germany |
|---|---|---|---|
| | Per ton Francs | Per ton Francs | Per ton Francs |
| 1891–95 | 11 87 | 8 62 | 8 24 |
| 1905–08 | 14 37 | 9 92 | 11 50 |
| Rise | 2 50 | 1 30 | 3 26 |

(Ton = 2 200 lbs)
(From *French Coal Mines Annual*)

The Nord lying on a coalfield had a certain advantage in this respect, the estimate for its supply being 17 to 21 francs per ton, but Normandy paid little more as there was the considerable supply of British coal to control the price policy of the coal cartels and the transport charges, British coal imported into Le Havre averaged 880,000 tons during the four years 1906–1909, and could be bought on the quays of Rouen

at 17 50 to 21 francs, the region which buys its fuel dearest is the Est, which pays carriage from the Noid, and the estimates range from 26 to 32 francs into the mills

Reference has already been made to hydraulic power as a reason for localization in the early XIX century but while still widely employed it is now an auxiliary and does not save the industrialist from the cost of duality of motors There were in 1900 only nine firms which had at their disposal more than 200 H P (French) and only three firms with more than 500 H P, besides this, there is the unevenness of supply through the year

Table VII, drawn up from the French Government returns of motive forces in industry in 1900 although now somewhat out of date, brings out the total motive power employed and the relative proportions of steam and water-power for the 5,500,000 spindles and 100 000 looms

TABLE VII

FRENCH HORSE POWER

| | | | | 1 to 10 | | 11 to 50 | | 51 to 200 | 201 to 500 | 501 to 1000 | | | Over 1000 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | F | H P | F | H P | F | H P | F | H P | F | F | H P | F | H P |
| Hydraulic— | | | | | | | | | | | | | |
| Spinning | 141 | 9324 | 14 | 105 | 74 | 2047 | 46 | 4132 | 4 | 3 | 3040 | — | — |
| Weaving | 160 | 6200 | 37 | 213 | 91 | 2452 | 30 | 2905 | 2 | — | 630 | — | — |
| Total | 301 | 15524 | 51 | 318 | 165 | 4499 | 76 | 7037 | 9 | — | 3670 | — | — |
| Steam— | | * | | | | | | | | | | | |
| Spinning | 323 | 96905 | 8 | 55 | 84 | 2510 | 95 | 10994 | 77 | 40 | 54420 | 19 | 28926 |
| Weaving | 273 | 26582 | 23 | 155 | 110 | 3477 | 110 | 12293 | 29 | — | 8607 | 1 | 2050 |
| Total | 576 | 123487 | 31 | 210 | 194 | 5987 | 205 | 23287 | 146 | — | 63027 | 20 | 30976 |

TABLE VIII

THE DEPARTMENT OF THE VOSGES

| | Firms | Water H P (French) | Firms | H P Steam |
|---|---|---|---|---|
| Spinning | 12 | 1 686 | 47 | 24 898 |
| Spinning and Weaving | 7 | 1 494 | — | — |
| Weaving | 89 | 2 920 | 93 | 8 123 |
| Total | 108 | 6 100 | 140 | 33 021 |

Of the businessess surveyed, just over 50% used some water-power and the proportion of hydraulic to steam-power was one-eighth, in the Vosges where, in the cotton industry, water-power is most prominent, the proportion was 77% and between one-fifth and one-sixth In this connection it may be noted that the French textile industries have since 1900 paid considerable attention to electrical power and to electrical driving, a number of expert electrical engineers have worked out the system for all cotton spinning machinery, especially for ring spinnning and weaving, and the cotton spinning and weaving mills with such installations have considered their investment a success, laying emphasis upon increased production

Electrical development would enable the Vosges to make more effective use of its water-power, which is not at present employed industrially, an additional factor is the relative advantage which electricity gives to small concerns so prominent in French industry

CLASSES OF WORK

Some indication of the classes of work associated with the chief districts forms a starting point for the consideration of the work of labour and of management Normandy spins the low and medium counts, the greater portion of its output falling between 10 to 26[1] (French) and the prices established in the yarn market at Rouen are for these numbers, there is little tendency to attempt specialization on a narrow range of work, and most concerns aim at being able to satisfy a mixed demand

The Nord included the Lille and the Roubaix-Tourcoing groups Lille with the surrounding district accounts for almost the whole of the fine spinning in France, it produces from sixties to three hundreds (French), the greatest fineness being three hundred and fifties, much of the Egyptian cotton is spun into sixties to eighties, there are some mills representing from 20 to 25% of the spindleage of Lille, which do not produce the yarns above sixties

[1] The 'count' of a yarn being the relation which exists between its length and its weight the basis of the French system of numbering is the number of lengths of 1 000 metres which weigh 500 grams, thus No 27 indicates that 27 000 metres weigh 500 grams

These points are roughly indicated in Table VI which records 736,000 spindles working on Egyptian cotton in Lille The markets for these fine yarns are found in St Quentin and Tarare for muslin and jaconet , in the hand-made lace industry where counts up to 300 are used, and in the manufacture of tulles, where counts of 200 are ordinarily used , in the hosiery of Troyes and in the mixed tissues of Lyons and St Étienne, as well as in the weaving industry proper Roubaix-Tourcoing spins from low numbers up to seventies and eighties, and feeds many of the local factories for mixed tissues In this latter case there is no evidence of attempts at automatic specialization by counts, but with the Lille group there is a certain specialization by markets, some factories producing yarns for tulles , others for Calais, Caudry, and the hand-lace industry, or again for sewing thread

The range of work in the Est is in some ways similar to that in Normandy but extends to higher counts This is seen in part from the figures of Table VI which returns 217,000 spindles as engaged in spinning Egyptian cotton, but the number of the Est was really between 450,000–500,000 since many are returned in Table VI under isolated and independent firms The base numbers of the Epinal exchange from which the prices of other counts are calculated, are twist 28, and weft 37 It may be said that the range for American is 14 up to 40 and 50, the most general lying between 20 and 37 , for Jumel, 30 up to 70 and 80

In weaving, Normandy produces articles of common use, being especially noted for coloured woven goods and printed calicoes (Indiennes), zephyrs, oxfords, flannels, tennis cloth, twills and grey cloth It also produces dress stuffs, ties, neckerchiefs, curtains and upholstery, cretonnes, flannels, novelties, and in the Eure ribbands Certain articles have been manufactured for so long in some towns that the name of the place is convertible with the articles , " Rouenneries " is the current term for coloured goods, and a Norman inevitably joins " mouchoirs " with " Bolbec " The production of the Nord takes many of its characteristics from its close connection with the woollen and linen trades It is specially associated with the various mixed fabrics, and the output is affected greatly by the changing of fashions The importance of cotton weaving is slight, as can be seen from the figures of Table II (Chap I) along with a certain small production of plain goods, grey and dyed, there are certain specialities and novelties

Amiens may be mentioned with this region for its cotton velvet and corduroy grey sateens, as well as St Quentin for its piques and other goods of high quality The Est is the largest general weaving district of France, besides being the chief centre of production of plain ' standard " fabrics it manufactures renforces, sateens, cretonnes, serviettes, sponges and fancies, St Die is noted for coloured goods cotton sheets, flannels, cotton drapery, tartan linings etc The work of the Rhône-Loire district is more definitely specialized than that of the other districts as it makes a large quantity of fancy and light goods After 1870, when the power-loom was first used in Roanne "standard ' goods were the main product, but from 1885–90 the drift has been towards coloured goods cretonnes, shirtings, zephyrs, linings Tarare is identified with cotton muslins and gauzes

Although a certain division according to product is thus evident in weaving the specialization does not proceed far, as most firms work for a widely variable demand and will accept relatively small orders upon a great variety of designs

### THE PROPORTION OF LABOUR AND CAPITAL

The amount of labour applied in France to a given quantity of capital would certainly strike an American or Lancashire observer as somewhat excessive This proportion is an index commonly used to point out the inferior productive qualities of French labour when compared with American or Lancashire standards It should be kept in mind, however, that the difference is due to a number of reasons, only some of which are within the control of the work-people This may best be made clear after stating the most typical proportions for various machines For the whole spinning industry it will be found that the number employed per 1,000 spindles is just over six

The following table shows the distribution

SPINNING

| | |
|---|---|
| Scutchers | 2 to 3 per man |
| Cards | 10 to 12 per man |
| Drawing frames | 12 deliveries per operative |
| Fly frames | Woman and girl per two sides |
| Ring frames | 400 to 800 per woman 500 typical |
| Self actor | For 1 700 to 2 400 spindles 1 spinner, 2 piecers and one or two creelers according to length For shorter mules, fewer piecers |

WEAVING

| | |
|---|---|
| Winding | 1 girl minds 30 to 40 spindles |
| Beaming | 1 machine per operative |
| Sizing | 1 machine per man |
| Weaving | 2 3 4 plain looms per weaver<br>4 is a maximum, 3 more usual and 2 still common |
| Automatic | 10 to 12 per weaver |
| Jacquard | 2 to 3 per weaver |

These statements are based upon inquiry and are naturally subject to the limitations of that method

The causes advanced to explain the greater relative quantity of labour employed in France fall into two groups, those which point to the methods of production, the character of the products, the size of firms, and different degrees of specialization, and those which lay emphasis upon the degree of skill, industrial capacity, and the standard of living of the operative class

The first group of influences is beyond the control of the work-people In spinning, many firms find it necessary to keep a repairing shop for the equipment, and this raises both the labour and capital expenditure in addition, numbers of winders are often included in the French totals Much of the machinery runs just as fast as in Lancashire but it is said that a somewhat superior grade of cotton is required to produce the same result and that the waste is somewhat greater, a far more serious drawback arises from the lack of specialism, which means a great deal of readjustment, a change in the work for the operative and a loss in time and continuity In weaving, the speed of the looms goes up to 220 and 240 per minute on plain work, but the absence of mass production and the variety of small orders with changing fashions tells against output

Two general questions emerge from these features of the industry, how far is this extra amount of labour to be explained as part of the general policy of the French spinners and manufacturers which finds it advantageous to use relatively more labour and less capital, and how far is it due to the restricted opportunities for specialism A leading witness before the Commission of 1904 stated that the tendency up to 1900 was to get the maximum production per unit of capital, but owing to the reduction of hours and the rise in wages there was afterwards a movement to get the maximum output per operative The evidence showed that a widespread effort

had set in about that time to introduce, where possible, British and American devices for saving labour by using more capital, this is especially seen in weaving where many of the trade disputes of the years 1900–04 are concerned with the increase in the number of looms to be minded and the piece rates to be paid There is some ground for the view that the extra number of operatives is in part due to the old policy of the employers, who in reckoning the cost of labour and equipment found that the 12 hours day made it worth while to economise in capital rather than labour It is unfortunately not possible to test this opinion owing to lack of information regarding output

While some doubt may be expressed as to the importance of the above cause, the handicap imposed by the narrow field for specialism is obvious and is continually quoted as a cause of weakness, yet the leaders in the industry have deliberately chosen by their policy to work for a general national market which is not large enough to give room for the economies to which specialism gives rise in an international market

It is a common statement with French employers that the quality of their supply of labour constitutes a difficulty in production They speak of a lack of keenness and perseverance in repetition tasks, of the absence of interest in the work and the tendency to lose time at the beginning and end of shifts It is difficult, owing to the complications with other influences to say how far these statements could be made good, there is certainly a great difference in the position of a French and a Lancashire cotton worker The operatives are not a distinct group with a long tradition, they may be drawn from agriculture as in the Est and Normandy, or they may change occupation between different textiles as in Lille and Roubaix, within the textile range and agriculture it will often happen that a change of trade is preferred to a change of locality The industry is not sufficiently localized to develop a conscious, professional feeling and the younger generation are not steeped in its atmosphere While the mentality of many grades of English cotton workers would place them among the artisan grades, the French would rank nearer to the semi-skilled labourer

Of the more general causes contributing to this position, the burden of military service upon men is often mentioned, absence for an extended period from textile work at a time when skill is most readily acquired is a distinct drawback, and further, the character of the service is liable to render

workers less fit for such work as mule spinning It has also been observed that in modern industrial development France affords the outstanding example of a people with the highest constructive ability who are disinclined to mass methods of production Even when English methods of massive production were introduced into France," says Marshall, " they seldom attracted the best workers Cotton factories grew up under the shelter of Protection but their work went heavily, and they did little credit to French energy " Individuality in production is characteristic of those French industries which are best able to hold their position in world markets This feature is of significance in so far as the commoner kinds of textile goods lend themselves to mass production, it will be the subject of comment in dealing with the scale of production

These causes serve to explain the proportion of labour to equipment, but it is difficult to say anything of value regarding labour costs per unit of unit, and that matter is most conveniently dealt with in connection with wages

The following percentages of raw material, general expenses and labour involved in the production of plain goods may however be quoted, they were furnished by the Syndicat Cotonnier de l'Est to the Commissioners of 1904

| | (Cotton at 2 francs the Kilo 1904 | | (Cotton at 80 c the Kilo ) 1898 | |
|---|---|---|---|---|
| | SPINNING | WEAVING | SPINNING | WEAVING |
| Raw Material | 74 | 76 | 55 | 65 |
| General Expenses | 18 | 15 | 31 | 22 |
| Labour | 8 | 9 | 14 | 13 |

Excluding the raw material, the proportion of labour cost to total cost is one-third in spinning, which agrees with M Aftalion s estimate for a typical Nord mill in 1902

It is also a fact recognised by employers and endorsed by them that labour cost, as distinct from earnings, varies by localities, there is no question of standard lists The Est has the reputation for lowest cost, followed by Normandy, a firm which had weaving sheds in St Quentin and Épinal gave evidence that the cost of production on the same article was in the proportion of 53 for Épinal and 65 for St Quentin,

and the labour cost twice as much in St Quentin as in Épinal, this latter difference was due in part to the difference in the number of looms tended, and in part to a specialization by product, since the firm sent its lighter work to the Vosges and its heavier work to St Quentin

FORM OF MANAGEMENT

The great majority of French concerns are owned and managed by individuals partnerships, or private companies, the "Societe Anonyme" or public joint stock company has played a strikingly insignificant part in the development of the industry, in the Est the "Societes Anonymes" accounted for between one-sixth and one seventh of the spindles and for one-tenth of the looms the proportion does not appear to be greater in other regions, with the possible exception of Lille An examination of the present companies shows that many of them are continuations of business built up by individuals and the "Societe Anonyme represented the easiest way of transferring the property, when for any reason the family was not able to carry on Few of the important firms belong to this class, and those which do frequently fall below the average efficiency of the industry It is not usual to float new companies upon this basis

The reasons for the small importance of this type of business management are to be found partly in the character of the work, the constant variation in the nature of the output, and the effort to keep orders and productive capacity in correspondence, with the need for supervision of detail, this influence is seen in the comparatively small size of the firms It is also due to a more general cause which affects a wide range of industries, the failure of large scale industry to attract capital this feature of French economic life has been touched upon by many writers, "it is however a noteworthy and not altogether healthy sign" says Marshall, "that France appears to devote no very large share of her wealth to new industrial and commercial enterprises at home or abroad" There is a certain lack of confidence in business undertakings and a preference for gilt-edged securities, French enterprise cherishes no "workshop of the world' ideas and except for the Nord there are no great factory regions to strike the imagination of the people In addition, the regime of private companies of itself favours secrecy as to profits or losses, the position of the industry as a field for investment is masked, or in the picturesque

language of the weavers of Amiens, "these factories resemble vast X century convents where most profound secrets are buried; we spend our lives in them but we are incompetent in affairs and no one discusses matters with us." The same influence is seen in the statement of a leading Lille cotton spinner that he could not adopt Lancashire methods of financing his business because such attempts to borrow would immediately destroy his commercial credit. The owners of the business sometimes share the commercial and industrial functions among them; but a fairly usual division is for the owner to concentrate upon the commercial side, dealing with the purchase of the raw materials, the needs of the equipment, and the selling of the goods, and for a technical manager to supervise the inside work.

The employing class does not appear to be recruited from a wide circle in the Nord or in Normandy as the family influence restricts the chances of others but the reorganization of 1860–70 allowed many men with little influence or capital to seize their opportunity. In the Est, however, observers state that there has been considerable vertical mobility and that at least one-third of the present heads of firms have risen from the position of workman, foreman or clerk. This movement has taken place mainly on the weaving side of the industry since it has become mechanical within the last 40 to 50 years and remains a stronghold of the small firms; another field which yields a supply of new employers is commercial agency; owing to the importance of marketing a varied production, this function is relatively important and it is an easy step to partnership and control. In the Est there has also been the exceptional infusion of a considerable body of Alsatian business men after 1870; it is perhaps not without significance that the district where the field of supply has been widest and where self-made men are most prominent, has come into the chief position.

The standard of education and training among employers varies greatly, but many of them reach a very high level both in technical knowledge and in breadth of view. Most heads of business come to their offices early in the day, often at 8 a.m., and contrast themselves favourably in this respect with their Lancashire confrères; there is also a certain keenness on the office work and accounting, developing in some cases into the use of all new labour-saving devices for clerking work, and into the employment of elaborate costing systems. It is common to

find men who have spent periods in work and study abroad, either in England or in Germany, more rarely in America, the courses most usually taken bear upon textile machinery, but often more general engineering work or commercial studies are added, there are in France itself a number of centres for the training of persons for responsible positions in the textile trades

The National Technical School at Lille and the National Professional School at Armentieres are institutions of the highest rank they had in 1908, 282 and 420 students respectively and awarded 94 and 60 diplomas There are also municipal schools at Lille, St Quentin Amiens and Épinal Rouen, Le Havre and Lille have higher commercial schools, and many towns have the less advanced " Écoles pratiques d'industrie et de commerce The Épinal School of Spinning and Weaving was due in the first place to the efforts and assistance of the Syndicat Cotonnier de l Est, it agreed to subsidise under an agreement the work of the town The school was opened in 1905 and had halls with modern spinning and weaving machinery and direct electric drive there were also collections of old machines, cloth, yarn, and so on, the students took a general as well as the special industrial course and paid 600 francs per year in fees The opportunity to develop an intellectual interest in their daily work is practically confined, however, to the salaried and employing class, and the general body of wage-earners have received nothing to take the place of the now obsolete apprenticeship system

While taste, variety, and novelty in design and colour are of more weight in the clothing and high-grade textiles than in the cotton trade, yet the influence of French leadership in this field has an important bearing upon the weaving industry, it makes it possible for manufacturers through the freshness and superiority of their patterns to hold their own easily on the fine work, and to command the prices of originality for novelties, the related industries of dyeing, printing, as well as lace-making share this benefit

### TYPICAL FIRMS

Much in this survey of the factors in production would lead one to expect business units much smaller than those most typical in Lancashire, the extra expenditure required both for fixed and rolling capital, the variety of the work, the restricted opportunities for routine management through the

absence of mass production and specialism all seem to favour the small firm It is possible to test these ideas by such information as is available regarding the distribution of equipment and of labour between firms of different sizes

The following returns are made up from government and trade reports

TABLE IX

ARITHMETICAL AVERAGE OF SIZE OF SPINNING FIRMS AT CERTAIN DATES
(In terms of Spindles)

| | 1845 | | 1865 | | 1907 | | 1911 | | |
|---|---|---|---|---|---|---|---|---|---|
| | F | Av | F | Av | F | Av | F | Av | |
| Normandy | 290 | 4700 | 299 | 6200 | 86 | 20000 | 52 | 24500 | |
| Nord | 92 | 6800 | 67 | 13200 | 56 | 40000 | 18 | 67000 | Lille |
| | | | | | | | 22 | 36000 | Roubaix Tourcoing |
| Est (excluding Alsace) | 51 | 5000 | 35 | 10000 | 64 | 35500 | 50 | 38000 | |
| Other Firms | 65 | 3400 | 46 | 5600 | 21 | 14000 | 32 | 23000 | Isolated |
| Alsace | 47 | 15000 | 44 | 16200 | (Independent) | | 49 | 21000 | |
| | | | | | Others | | 25 | 10000 | |

Table IX shows the rise in the average size of businesses, it also makes it clear that the increase is not uniform in the main regions, Normandy and the attached manufacturing districts are strikingly behind the Nord and the Est, Lille, with an average of 67,000 spindles per mill stands out as the district of large firms - Similar information is not available for weaving, one reason being the comparatively recent rise of power-loom factories, the arithmetical average in 1903 was for the Est, 420 looms per establishment, and for Normandy, 300, but only firms in the Manufacturers' Union were covered in Normandy and the census shows the prevalence of small concerns

Table X gives information regarding a considerable number of establishments in France and for the Est It appears that 20,000–40,000 spindles and 50,000–80,000 are the dominant sizes, and in weaving 300 to 400 looms and 500 to 600, but in both cases the range is very wide, and in the Est it is even wider than for the large area

Tables XI and XII, showing the distribution of firms by numbers employed, bring out the same points in the Nord, large firms engaged in spinning and employing upwards of 200

TABLE X

SIZE OF CERTAIN FIRMS —(1) Spinning only (2) Weaving only (Paper by Messrs Chapman and Ashton 1914 *Royal Statistical Journal*) and from *Worrall s Directory* Also (3) Size of certain Spinning Firms and (4) Weaving Mills in the Est 1903 from *Syndicat Cotonnier de l Est*

| (1) Spindles | Firms | (3) Spindles | Firms | (2) Looms | Firms | (4) Looms | Firms |
|---|---|---|---|---|---|---|---|
| 5 000 | 6 | Under and 10 000 | 14 | Up to 50 | 12 | Up to 100 | 14 |
| 7 500 | 3 | 10 to 20 000 | 19 | 50–100 | 17 | | 22 |
| 10,000 | 9 | 20 to 30 000 | 9 | 100–200 | 24 | | 25 |
| 15 000 | 6 | 30 to 40 000 | 9 | 200–300 | 27 | | 11 |
| 20 000 | 10 | 40 to 50 000 | 7 | 300–400 | 19 | | 13 |
| 25 000 | 6 | 50 to 60 000 | 3 | 400–500 | 15 | | 12 |
| 30 000 | 12 | 60 to 70 000 | 2 | 500–600 | 10 | | 1 |
| 35 000 | 4 | 70 to 80 000 | 1 | 600–700 | 2 | | 6 |
| 40 000 | 8 | 80 to 90 000 | 2 | 700–800 | 4 | | 4 |
| 45 000 | 2 | Upwards | 3 | 800–900 | 2 | | 12 |
| 50 000 | 1 | | | 900–on | 10 | | |
| 60 000 | 5 | | | | | | |
| 70 000 | 3 | | | | | | |
| 80 000 | 5 | | | | | | |
| 90 000 | 1 | | | | | | |
| 100 000 | 1 | | | | | | |
| 130 000 | 1 | | | | | | |
| Total | 83 | Total | 69 | Total | 141 | Total | 120 |

TABLE XI

SIZE OF CERTAIN SPINNING FIRMS ACCORDING TO AMOUNT OF LABOUR EMPLOYED (CENSUS RETURNS)

| Number Employed Category | 1906 All France Firms | 1906 All France Workp'ple | Nord Firms | Est Firms | Normandy | 1896 All France |
|---|---|---|---|---|---|---|
| 1–20 | 23 | 81 | 9 | 7 | 7 | — |
| 21–100 | 49 | 2907 | 16 | 14 | 39 | 82 |
| 101–200 | 62 | | 16 | 12 | 28 | 69 |
| 201–500 | 55 | 27505 | 27 | 15 | 11 | 40 |
| 501–1000 | 12 | | 6 | 4 | 1 | 4 |
| 1001–2000 | 4 | 14613 | 4 | — | — | 3 |
| 2001–on | 1 | | — | — | 1 | — |

TABLE XII

SIZE OF CERTAIN WEAVING FIRMS BY NUMBERS EMPLOYED

| Category | 1906 All France: Firms | 1906 All France: Work people | Est Firms | Picardy Firms | Rhône Loire Firms | Normandy Firms | 1896 France Firms |
|---|---|---|---|---|---|---|---|
| 1–20 | 1516 | 2520 | 69 | — | 372 | 465 | — |
| 21–100 | 82 | 4900 | 44 | 3 | 23 | 15 | 116 |
| 101–200 | 87 | | 51 | 5 | 9 | 20 | 71 |
| 201–500 | 142 | 57800 | 61 | 4 | 32 | 39 | 107 |
| 501–1000 | 37 | | 14 | 2 | 6 | 15 | 27 |
| 1001–2000 | 6 | 33087 | 4 | — | — | 2 | 5 |

are numerous in Normandy, there are many employing less than 200, the Est is in an intermediate position

In weaving, small scale work is specially characteristic of the Rhone-Loire and Norman regions, but no district stands clearly out from the others

Professor (now Sir Sidney) Chapman, in his study of the Lancashire cotton industry, has pointed out that in each industry and branch of an industry firms tend to attain a typical magnitude It is the size of business for the time being which allows the firms to benefit to the greatest extent by the internal and external organization of the trade to make the best use of their environment That magnitude is a function of many variables (1) the degree of complexity in internal organization, (2) the character of the output (3) the relative scarcity of the agents of production, labour capital, and organization (4) the nature of the marketing work, (5) the variability of demand (6) the rapidity of changes in technical methods, (7) the possibility of massive production and routine management The influence of some of the above factors has already been noted, but a few observations may be made regarding the scale of production and the degree to which this tendency operates

The French cotton trade is not an economic unity, it is composed of three or four industrial groups within the same political unit and with numerous trade connections, but it presents some features in the comparatively slight mobility of labour, and even of capital between the areas, which are the characteristics of international trade as understood by English economic students

In spinning it would be necessary to examine the dimensions of concerns in the Nord, Est and Normandy, separately rather than to take figures for France as a whole, the information is not sufficient to do this satisfactorily but it suggests that the Norman type lies in the neighbourhood of 30,000 spindles, for Lille, 60,000 to 80 000, Roubaix-Tourcoing, 30 000 to 50 000 for the Est, 30,000 to 50 000 But variations in one or other of the seven factors mentioned, apart from the differences in the skill of the management of particular concerns, may be used to explain many cases, six spinning mills in the Vosges were understood to have a market for their yarn guaranteed by the same weaving firms year after year, this elimination of marketing risks could not fail to make the task of management easier and render it possible to control more work of other kinds In weaving, the most prominent type numerically in all areas is that employing 201 to 500 work-people, and there is a distinct similarity in distribution between the Norman and Est Groups

The forces tending to restrain the size of individual plants which appear most important in France are the absence of power to limit the range of products made in the ordinary work, the presence of high grade and nouveauté production demanding special care, the heavy task of management where both industrial and commercial complexities have to be met, the cost of first establishment and lack of power to attract capital Where water-power is used, it imposes restraints on the magnitude of a business, this is of some importance in the Est, doubling also makes for a small unit

While labour has undoubtedly been a cause of the dispersion of the mills in Normandy and the Est, it does not appear, except in special cases, to have been a limiting factor until recent years, its wages having been determined by the payment in alternative occupations, mainly agriculture and the other textiles With the rise of Rouen to the position of second French port, and the growth of alternative occupations for men and to a less extent for women, the Norman employers have begun to speak of a dearth of labour which they attribute to a drift to the Nord, where earnings are higher The employers in the Est have also devoted considerable attention to methods of preventing the emigration of their supply, among these being elaborate schemes of social foresight, half-pay during unemployment, and in some cases a guarantee to find employment for more than one member of the family

In the sense, however that French labour requires more supervision than British labour, it would act as a limitation upon the size of businesses The general position of the work-people, both with regard to production and the standard of living, will be the subject of special treatment

The degree of separation between spinning and weaving is a further matter of interest in industrial organization The following return from *Worrall's Directory* (1913) shows the differentiation in France

TABLE XIII

| | Total | Spinning only | Weaving only | Both | Neither |
|---|---|---|---|---|---|
| Nord | 100 | 65 | 18 | 13 | 4 |
| Picardy | 60 | 7 | 46 | 3 | 4 |
| Est | 162 | 32 | 94 | 41 | — |
| Normandy | 143 | 63 | 42 | 24 | — |
| Rhone Loire | 146 | 6 | 131 | 6 | — |
| Scattered | 75 | 15 | 41 | 15 | 4 |
| Total | 686 | 188 | 382 | 102 | 12 |

The combined firms number 14% of the total which agrees with the figure given by Messrs Chapman and Ashton (*Royal Stat Journal*, 1914) In two districts, the Rhône-Loire and Picardy, there is no spinning of importance, and in the Nord there is but little weaving, the separation is carried far also in the Est and Normandy, the weaving industry has been followed in the Est after 1870 by spinning and the joint firms have not usually large spinning departments Spinning became a machine and factory business before weaving, and this has assisted the separation of functions In addition there are different qualities required for success in the two businesses, the weaver has the more complicated commercial task Some firms, however, prefer to integrate their industrial processes and keep control of the production of yarn and fabric, it avoids a market which may be inconveniently distant, and gives some guarantee of the quality of the yarn

Leaving aside the employers' "Syndicats," which have gradually extended their functions from the collection of statistics regarding production, stock, and sales, to various attempts to control the operation of competition by price control and agreements to enforce short time, there are certain

groupings of firms by family interests and partnerships to which reference may be made

It often happens that an old-established industrial family builds up a number of businesses either in the same or allied trades In some cases it may own two or three spinning mills, built at different dates, and also weaving concerns they may be in the same locality, or spread in the case of weaving over the different regions to take advantage of special characteristics in production They are not always confined to one textile, the same family may control cotton and woollen mills, or cotton and linen just as the work-people do not keep to one kind of work but try allied occupations in a locality, so too the employers may not specialize in one industry alone

One instance may be given of a great family in the Nord, the various members of which have taken part in starting no less than 17 concerns in the cotton and woollen trades Beginning with a dyeing and finishing establishment for wool and cotton fabrics, the family group now controls two dyeing and finishing works for cotton and woollen goods, one for drapery and made-up cloths, three for cotton spinning and doubling, eight for wool combing and spinning, one being in Poland and one in Silesia, one for cotton weaving, one for woollen hosiery, and one for machines In another case the spinning and doubling of cotton, linen and jute are combined in a large group

The traditional connection of France with Poland and Russia, and the flow of French capital to these latter countries, is seen in a number of cases where families own both French and Polish mills The influence of the British combines is seen in Lille, where the Fine Cotton Spinners' and Doublers' Association has a controlling interest in two firms producing that class of work, and there is also a British connection with some of the sewing-thread firms

The strength of the French family association has often been commented upon, and it appears to find further illustration in these industrial "blocs", it is also noteworthy because Blondel and other writers have remarked upon the excessive individualism of French business men and their dislike of associating with others for business purposes, as in England, old firms shrink from losing their individuality in combines, and these "blocs" were the way chosen to expand the business within a group with strong community of interest

# CHAPTER IV

## COMMERCIAL ORGANIZATION AND FOREIGN TRADE

Le Havre has already been mentioned as the chief port through which raw cotton is brought into France, and it receives almost the whole of the American supply it is also the chief depot and the seat of a highly developed produce exchange

While Bremen, owing to its position as chief cotton market for Central Europe, dealt in 1912–1914 with twice as many bales as Le Havre it had not before 1913 developed a 'futures' system (owing to both legal and economic causes) whereas the French port supplying an old-established industry had long been a very considerable speculative market ranking in Europe after Liverpool Statements were made by spinners to the Parliamentary Inquiry of 1870 with a view to showing that they were handicapped compared with English spinners, since the Havre market did not offer facilities equal to Liverpool in choice of stocks and cheapness of freights, but they had reference to Indian rather than American staple Formerly the French spinners bought a part of their supply from American shippers, but difficulties connected with the adjustment of claims for tare and the recent bill of lading frauds led to the discouragement of that method Cotton is still not infrequently brought from Liverpool, coming from that port it pays the entrepôt tax unless it comes from a British colony French spinners do not allege that the service of the Havre market is inferior to that of Liverpool, but on the contrary they state that the French market is at least as good and in some respects, such as methods of arbitrage, fairer to the industry

A leading cotton dealer in Havre expressed the view that the outstanding tendency in the organization of the market since 1900 had been the attempt to standardize all conditions under which dealings took place, in practice this has meant the recognition of English and American rules so that Havre might the more easily carry through transactions with Liverpool and New York, since 1901 the Liverpool grades have been admitted and the discussions of the international congresses on packing and handling of cotton, bills of lading, damp in cotton, and testing-houses at ports of arrival, are signs that this movement towards unification of business

standards is general The "Syndicat du Commerce des Cotons du Havre" has spinners among its directors, but its policy is directed by merchants and brokers, in this respect it resembles Liverpool, where the spinners are unrepresented, and differs from Bremen which admits to membership dealers in raw cotton and spinners, the spinners being in a majority in this latter exchange would be able to determine policy if they exerted themselves

Liverpool and Havre have therefore been characterized by the spinners as organized trusts of sellers [1] as their attitude to questions of arbitrage is said to be unduly under the control of merchants, but the members of the exchange consider themselves arbiters between planters and spinners

The description of the market may be grouped round a few salient features

I —The dealers on the exchange and their relation to the industry
II —The Classes of Contract
III —The Arbitrage Methods
IV —The Clearing House and the Speculative System

## I

Of the dealers on the exchange three classes may be mentioned, the "courtiers" or brokers, the importers and agents of American houses, and the merchants and agents, who keep in touch with the widely-scattered market constituted by the spinning industry

There are three societies of cotton brokers in Havre, the "Anciens Courtiers," the "Courtiers Libres," and the "Courtiers Assermentes" (sworn), while retaining their individuality in internal management, they have common regulations upon most points of importance The law of 1867 and the imperial decree of the same year outline the general conditions of the profession and lay down certain rules regarding both internal discipline and duties The sworn brokers record the sales and fix the official quotations, and most of the buying and selling is done by the common broker, as Henri Lecomte (*Le Coton*) has observed, there is a touch of the "functionary" about the French cotton broker which is characteristic, he is the bureaucrat of the exchange

The rules deal with rates of brokerage, these are one-half of 1% for purchase and sale of spot and call cotton, one-

[1] Macalister, p 75 International Congress 1911

quarter of 1% for future contracts, and one-eighth of 1% for grading, typing, and classifying cotton There are also fixed fees for arbitrage, 25 francs per 100 bales or part, with 10% franchise, two-fifths to each of the arbiters and one-fifth to the third, for spot and call cotton and 36 francs per 50 bales for futures It is formally forbidden to all members of the three societies to do business in their own name, and the functions of broker are recognised as incompatible with those of merchant, neither can a broker enter into any partnership with a merchant nor be employed in his office, brokers cannot trade with clients of the interior, and on the other hand members of the Syndicat pledge themselves not to deal in futures directly without the employment of brokers

The outstanding feature in the position of the Havre broker is that of the three functions associated with dealers on a produce exchange, the equating of demand and supply the anticipation of future demand and supply and the bearing of the risks of change in value, he confines himself to the first and acts as an intermediary bringing buyers and sellers together, in this respect therefore he resembles the Bremen much more than the Liverpool broker [1]

French cotton spinners buy their supply from Havre merchants through agents resident in the chief district centres, Épinal, Rouen, Lille, and Roubaix, these agents are remunerated at a rate of one-half of 1% or 1% and they may represent a number of American houses, and in addition hold an Indian and Egyptian agency, the ruling condition being that an agent cannot represent houses which are directly competing in the class of cotton offered

The group localization of the industry shows its effect in this market, as distance, agency, and the telephone do not permit so close a contact and so smooth an adaptation of demand and supply as the British industry presents This is in part the explanation of the holding of large stocks of cotton to which allusion has already been made in Ch III, it may also cast some light on the tendency noted among some French spinners to speculate in raw material as well as to manage their business, on that ground it is sometimes asserted that even if the average profits of a large number of spinning mills were known, as with the joint-stock Limited Companies of Lancashire, no conclusion could be drawn as French profits include a greater speculative element

[1] See Mr Dehn's Report on the German Cotton Industry

## II

Turning to the classes of contract on the exchange it may be observed that out of 1 000,000 bales used only a very small percentage is bought on c i f terms, most of the purchases are made on Havre terms which are ex warehouse

The following are the five classes of contract —

(1) CONTRACT A Sales of Spot Cotton

No special point calls for comment, the cotton is sold by the half-kilo, and there are general conditions as regards payment discounts, delivery, with special conditions for tare, arbitrage, and so on

(2) CONTRACT B "Deliverable" Conditions of Havre

The sellers must deliver a net average weight per 100 bales of 20,700 kilos for Atlantic cotton, 24,500 kilos for Gulf, and 22,600 kilos for Texas, with a franchise of 5% more or less

(3) CONTRACT C "Deliverable" c i f and 6% (There was a desire to make the terms c i f and the percentage of real tare)

The sellers must deliver a gross weight per 100 bales of 22,000 kilos for Atlantic, 23,000 for Gulf, and 24,000 for Texas with franchise of 5% more or less

(4) CONTRACT D Monthly delivery Havre conditions

Deliveries at the choice of the seller either in totality or by lots of 50 bales or multiples of 50 bales

(5) CONTRACT E

The sale of futures registered by the clearing house is based upon middling, nothing can be delivered below low middling or above middling fair, business is transacted in certificates of 50 bales of which the net weight cannot be less than 11,000 kilos, or over 11,300 kilos

## III

Passing to consider the arbitrage methods, the Havre system may be said to stand between those of Liverpool and Bremen, at Liverpool the arbitration is done by members of the exchange and each party appoints its own arbitrator, failing a decision, the two arbitrators call in an umpire The merits claimed are that the arbitrators are not merely expert classers of grade or staple, but men who actually work in the market and know the value of the cotton, against this is the

lack of neutrality of the agents who may act as bargainers and advocates rather than as umpires, so breaking the continuity of decisions The Bremen arbitration is done by salaried men who are sworn arbitrators and do nothing but settle such cases The names of the parties are not known and the decision is given as to the class of staple represented in the sample, but it is the committee of the exchange which issues lists fixing the differences in value At Havre the arbitration is carried out by members of the exchange who are appointed to serve in rotation by the brokers societies They are not appointed by the parties to the dispute nor do they know the names but they are members of the trade and know the values It was claimed by the French delegate to the International Conference in 1913 that this method avoided the salaried officials who make a business of arbitration on the one hand, and the suspicion of undue partizanship in decisions on the other

## IV

The fourth feature of the Havre exchange of vital interest to the industry is the speculative system and the clearing house Future contracts are used by merchants and by spinners to cover their risks, and the central institution is the " Caisse de Liquidation " It guarantees the full execution of all contracts registered by it , the unit of contract for cotton is 11,000 kilos or 50 bales

The conditions for registration are —

(1) An original deposit furnished by each party as a guarantee for the whole of the operations In the case of cotton, that is not to be less than nine francs per bale

(2) The payment every day of all margins which result from variations in market rates until the completion of the contract

It is held that the exaction of the original deposit may be heavy, but favours safe dealing, and Havre has been clear of bad debt for over 30 years In this connection it is of some interest to note that the French attitude to the futures system has been critical, although no direct interference with these exchanges had occurred until 1911 and 1912, and even then only in the form of a " taxe de statistique ' There had, however, been a continuous procession of more or less restrictive proposals passing through the Chamber of Deputies dealing with the " Marché a Terme "

While informed opinion did not contest the argument commonly used in favour of futures, the great insurance value to industry, the bearing of the necessary risks of anticipating demand and supply the steadying and levelling out of prices, yet there was a definite hostility towards all forms of market tampering, picturesquely called " Monaco without the music," and towards monopolistic influences which were felt to counterbalance seriously the advantages claimed Like Germany, France was also influenced by the depression in her agriculture down to 1900, which roused many attacks on the produce exchanges, as these were believed to be partly responsible for the fall in prices She never resorted to the severe method of repression seen in German legislation between 1896 and 1908, in 1911 and in 1912, however, she instituted a " Répertoire," and a small tax upon exchange operations of a speculative character, and the fear was expressed that this was merely the starting point for a more extensive system of control and taxation The Répertoire is a register in which all exchange intermediaries must inscribe operations which are for futures or for call, it is examined regularly by the Chairman of the Commerce Tribunal The scheme therefore resembles a stamp duty on exchange operations and is meant to keep any except those professionally occupied in the market or in the industry off the exchange [1]

So far as the cotton industry is concerned, it would of course require something far more international in its scope than the regulation of speculative dealings on the Havre exchange to influence the course of prices of the raw material, and the suggestion made to the International Federation in 1911 by certain French spinners was to use the " short time " method to check exaggerated speculation

While agreeing " that speculation has the essential object of regulating prices by widening the market as to time, just as the means of communication widen it as to space," yet certain French spinners have urged that " speculation has been allowed to become a monopolizing factor " and " some short crops unfortunately facilitate the schemes of daring speculators who are at the same time trained psychologists," so that " the only weapon which the spinning industry possesses for the purpose of checkmating " the exaggerated rise in prices is the regulation of demand by organized short time The other plans, which have been suggested for the control of

[1] See Clerget *Manuel d Economie Commerciale*

speculation, appear in Mr Tattersall's report to the Zurich Congress (1907), they include the stamp duty upon futures, which the French Government has since proposed, the closing of the markets to all except those in the trade a spinners' buying syndicate, the purchase of American plantations by spinners the constitution of a reserve stock on the analogy of banking in certain European markets This last notion has attracted some attention in France but has not been considered feasible as yet

It may therefore be said that the raw cotton exchange at Havre is relatively highly organized, considering that it deals with approximately one-fourth of the amount of produce which passes through Liverpool and that its clients are scattered in distant manufacturing groups It has the important characteristic of being practically the sole port of arrival for an industry which, with the addition of Alsace, has become the most considerable on the continent of Europe

### THE YARN MARKETS

The commercial operations between spinning and weaving are mainly performed by agents, but no distinction exists between buying and selling agents The yarn markets are the chief centres of the three spinning groups, Rouen, Lille, and Épinal, they are, however, not to be considered as holding positions in the trade similar to that of Manchester In the Nord district the greater proportion of the output is sold by agents located in the manufacturing districts, these agents may represent one or more mills, and the usual commission is one-half to 1% on American and 1% on Egyptian yarns, occasionally 2% if the agent guarantees accounts and becomes "del credere" There are a certain number of yarn merchants who do business on their own account in Lille and Calais, and some yarn is sold directly to manufacturers by correspondence or by private salesmen The market town is Lille, where the Bourse is held weekly on Wednesday afternoons, to discuss the state of affairs and to arrive at the price of base grades rather than to do actual trading

In the Est there is both direct selling and selling by agents, reference has already been made to a group of six spinning mills where the output is taken by a number of regular clients Agents, however, do a very considerable portion of the trade, they work on the commission of one-half of 1% for American, and 1% for Egyptian yarns, and bear no risks, there are also

a small number of agents three in 1912, who do merchant work and trade on differences for themselves The Bourse meets weekly in Epinal for intercourse and to fix the prices of the base grades of yarn In Normandy "several of the old spinning concerns sell through regular sales agencies which control the whole output guarantee accounts, and are paid 2% commission' but the main method is by agents as in the Nord and Est The market meets at Rouen once a week, and the Lloyd Rouennais publishes a resume of the yarn prices based on the week's business

Taking France as a whole, the mills are too widely dispersed to allow of any market concentration, and while direct selling may be practised within any one locality between spinner and manufacturer, the intermediary seems to render specialized service both in the groups and between the groups which it would be difficult to displace

The yarn broker or agent may perform three functions —

(1) The suitable adjustment of the needs of buyers and sellers, a function which calls for a thorough knowledge of all the different marks of yarn produced on the one hand, and an extensive knowledge of what manufacturers are using on the other, and this knowledge must be kept up-to-date

(2) He may advise producers as to the probable tendency of demand, and estimate its effect on prices, thus attempting to equate future demand and supply, a necessary function unless the output were solely on the basis of orders

(3) Certain risks may be accepted from the spinner or manufacturer, when the agent acts as a principal, provides credit, and trades in margins

The work of the French agent is mainly that of an intermediary, rarely that of a risk bearer, and the following points are mentioned in connection with this function

The differences between yarns of the same count are due to differences in the cotton worked up, and to variations in the mixing, cleaning, carding, drawing, and spinning, the process of grading, an essential for future dealing, is therefore a rough approximation At Lille and Rouen there is a rough division into first quality yarns of a few firms which can always command a few centimes extra per kilo, secondly, the ordinary good spinning sold at the base prices, thirdly, the output of firms where a few centimes per kilo is deducted Some

reference has also been made (Ch II) to the variety of the markets which use the yarns

The Est and Normandy are districts where spinning and weaving are both practised, but the Nord has but little weaving in its own area and the Roanne district has no spinning There is therefore a relatively large amount of exchange and considerable competition between the firms and districts, the Nord may be secure in the higher counts but there are many demands which might be met from any of the three spinning centres of these the most notable are Amiens, St Quentin, Troyes for hosiery, Calais and Caudry for lace, Lyons and Paris

The scale of production is not such that all the agents confine themselves to cotton yarn broking, in Épinal, there were in 1912 thirty-three members of the syndicat of raw cotton and yarn brokers, and some did business in both lines, in Lille and Roubaix some agents dealt in linen as well as in cotton yarns

### THE CLOTH MARKET

In the cloth market there are both direct sales and sales by agents In Normandy a large number of firms are represented on the markets by private salesmen as there is a considerable amount of finished cloth, of stripes and fancies, produced, selling houses take over the whole output of some factories, and in addition there are the ordinary agents In the Est a small number sell direct to merchants and printers, and a few have their own office in Paris The great majority sell by agents in Paris, Lyons, and other centres the commission paid is one-half of 1% to 1% and no responsibility rests on the intermediary While the great proportion of the output goes into the hands of merchants for finishing, bleaching and dyeing, the printers usually buy the cloth to carry through their own process

In France, and especially in Paris the large scale departmental store has recently come to play a considerable part in trade and the manufacturer of striped and fancy cloth, the printer and the merchant sell direct to these organizations there have in addition been other attempts to combine retail shops in groups with a view to cutting out the wholesale link

In the export trade the colonies provide the largest market, and the problem of selling in districts which are relatively

undeveloped from the business standpoint calls for the resident merchant and representative, rather than the commission agent and traveller, to stimulate demand and to elicit the conditions of sound credit In Algeria colonial merchants carry on the trade and send their buyers to the French markets, but distant colonies are supplied by export houses Most of the limited trade which France conducts with developed markets in Europe and America is in the hands of exporters except that U S A houses send buyers to Paris It may therefore be said that the 'forms of market organization' are adjusted to (1) the geographical distribution of the mills, (2) the scale of production and (3) the nature of the goods

The French markets are affected by the group organization of the industry, but " Paris is so pre-eminently the financial and commercial, as well as the political and social centre" that it can be reckoned the centre of the cloth trade, although there are important secondary markets The scale of production influences the selling function in this way, that large scale factory production makes it possible for the manufacturers themselves to consider arrangements for direct sale, and to attempt to control the distribution of their goods, again, small scale machine or hand-work such as is seen in the Rhône-Loire district or in the related industry of lace-making, makes the merchant or middleman into a collector of goods, the domestic type of employer and the position of such an intermediary is difficult to assail

Déchellete writing of the hand-looms and domestic power-looms of Tarare and Amplepuis, observed that the isolated weavers required an organization to protect their interests against those of the manufacturers and merchants who provide the yarns and have performed the necessary preparatory processes otherwise they would, by undercutting, destroy their own standard of living At Amiens in the fustian trade, " the master weavers raisers, cutters, and dyers have of recent years been seeking to displace the merchant dealer, whom they consider as an unnecessary middleman " " The merchant, on the other hand, has been seeking to strengthen his position by becoming interested in particular establishments from which he does most of his buying, or to which he gives most of his work' Both tendencies have made progress

The nature of the goods determines to a certain degree whether the merchant function will be a distinct and inde-

pendent business from that of the manufacturer, where the goods are sufficiently gradable to be bought for finishing in different ways, for printing, dyeing, and so on, the merchant steps in, but for special classes of goods and for goods which have the mark of a firm, private markets may be made by private salesmen

THE HOME MARKET

It is not possible to give any data as to the extent of the home market, as there is nothing comparable to the British census of production, nor can anything more than a rough reckoning be made as to the relative proportions of the home and export markets The amount of raw material which was worked up in France in 1910 is given as 256,000 000 kilos, and the weight of all yarns, waste and cotton fabrics exported amounted to 51,000,000 kilos, the term "fabrics" included the exports of related industries, lace, hosiery, ribbons, and embroidery, it may therefore be reckoned that not more than 20% of the production goes abroad, and for the cotton industry, strictly so called, the percentage would be less

Some of the characteristic features of the market may be pointed out, as they cast some light on the position and prospects of the industry

(1) It is a market practically closed against foreign competition This was, of course, the object of the tariff of 1892 and of the revision of 1910, in the words of M Meline "We have calculated scientifically the duties applicable to each industry, by comparing the costs of production in France and abroad, measuring the margin which separates them, and establishing a duty which would be the exact representation of this margin" The theory of compensatory duties should, in practice, make it normally impossible for other countries to compete with the French industry, and the only imports would be such special products as France did not manufacture

The tariff system by which these ideas are put into operation is much too elaborate for description in this report, but notice may be taken of a few characteristics The imported yarn is taxed per 100 kilos under the general rates or under the minimum rates according to the agreement with the country of origin, and the specific duties are made effective by an elaborate classification according to quality

The 1910 duties may be quoted for a few numbers

YARNS OF COTTON PURE

| Single unbleached measuring to the kilo— | Counts | | Duties | |
|---|---|---|---|---|
| | French | English | General | Minimum |
| | | | francs | francs |
| 31 000 metres or less | 15 and under | 18 and under | 23 00 | 15 00 |
| 31 000—41 000 metres | 15 to 20 | 18 to 24 | 28 00 | 18 50 |
| 41 000—51 000 metres | 20 to 25 | 24 to 30 | 33 00 | 22 00 |
| and so on to | | | | |
| 381 000 metres and over | 190 | 225 | 510 00 | 340 00 |

The arrangement protects fine spinning to a relatively greater extent than the German tariff, and the duties are built up by additions of fixed amounts and of percentages per 100 kilos

In the case of fabrics of pure cotton the classification may be illustrated

FABRICS OF PURE COTTON

Plain, twilled, and drills, unblocked, containing in warp and weft in a square of five millimetres each side, weighing per 100 square metres 13 kilos or more

| | General Duty | Minimum |
|---|---|---|
| 27 threads or less | 80 00 francs | 62 00 francs |
| 28 to 35 threads | 100 00 , | 77 00 |
| 36 to 43 threads | 125 00 | 96 00 |
| 44 threads or more | 153 00 | 118 00 |

The weight of such duties decreases with a rise in prices when estimated *ad valorem*, as specific duties they were calculated by the Board of Trade (1903) to be —

| | | | |
|---|---|---|---|
| Cotton yarn—Grey | | 1 52d | per lb |
| | Bleached or dyed | 2 29d | |
| Sewing thread | | 53 09d | |
| Piece goods— | Unbleached | 1 00d | per yard |
| | Bleached | 1 18d | |
| | Printed | 1 38d | |
| | Dyed | 1 25d | |

These figures would be some indication of the normal difference in cost of production according to the underlying idea upon which the system of 1892 was constructed

An examination of the import figures shows the slight importance of foreign competition The year 1913 may be taken for purposes of illustration

| | | |
|---|---|---|
| (1) | Importation of yarns (total) | 33 337,118 francs |
| | Single yarn (grey) | 17 736 530 |
| | Doubling yarn (bleached and dyed) | 15 600 588 |

England exported extra fine yarns for hosiery, tulle, embroidery, also extra coarse Germany sent coloured and mercerised yarn

| | | Francs | Kilos |
|---|---|---|---|
| (2) | Total imports of cloth | 56 474,245 | — |
| | Cotton Fabrics proper | 7 447 080 | 1 233 600 |
| | Lace | 11 516 920 | 17 411<br>73 400 |
| | Embroidery | 12 452 431 | 86 827 |

England was the chief furnisher of cotton fabrics proper, and Germany of hosiery, England and Germany of machine made lace, Belgium and Italy of hand-made lace, Switzerland and Germany supplied embroidery, and England and Germany tulle and ribbons

(3) A second aspect which has attracted some attention is the substitutional power of cotton and the intensive way in which it has displaced and limited the market of the other three textiles, linen wool, and silk M Aftalion, in a study of the linen industry (1904), argued that a main cause of the crisis of that period was the gradual displacement of linen by cotton for many uses examples were underclothing, table linen, bed linen, cambric, curtains, hosiery, light dress stuffs, upholsteries, and sewing thread The old peasant habit of accumulating linen which was handed down from one generation to another is dying out

The transition was easily made by mixing threads, warp linen and weft cotton, looms were transferred to this work and ultimately to cotton The decisive factors were the relative prices of cotton and flax and the great superiority of cotton as a machine industry The woollen industry has been specially attacked in the flannel and hosiery trades, where there has not been a substitution of pure cotton goods the mixed tissue has become the vogue, and this applied to fine dress goods as well as shoddy Cotton had the advantage over wool in that its raw material was more cheaply obtained, the fibres are more uniform and easier to work, the goods are standardized more rapidly and lend themselves to a larger scale of production "Cotton manufacturers have steadily intro-

duced finer and finer fabrics," and with the perfecting of mercerization have been able to give their fabrics a silk-like appearance In all these fields therefore, the cheap and easily-worked cotton material, aided by a perfected technical equipment and refinements of design and finish, has increased the pressure of competition upon the other textiles

(4) A further feature which has of recent years been a considerable difficulty to some districts is the influence of fashion and taste upon the variation of demand For districts which do not concentrate on "standard" goods, there is both seasonal variation and changes in patterns and styles This has affected chiefly the Rhône-Loire district with its light fancy goods and novelties, as well as the Nord with the derived industries such as lace-making, it only strikes a part of the production of the Est and Normandy

This influence has raised problems affecting the financing of business during slack seasons, and questions of labour organization such as regulation of factory hours and unemployment

### THE EXPORT TRADE

Passing to the examination of the export trade the figures for 1913 may be taken for the pre-war period

Export of yarns Total 24,141 000 francs
To French Colonies 4 259 000 francs

The main markets for this small quantity are South America and Belgium

| Fabrics | Francs | |
|---|---|---|
| Total Exports | 385 457 081 | |
| Chief Customers— | | |
| French Colonies | 126 547 000 | |
| Britain and Colonies | 61 329 000 | |
| U S A | 73 161 000 | |
| Belgium | 31 000 000 | |
| Argentine | 21 840 000 | |
| Germany | 10 524 000 | |
| Turkey | 10 165 000 | |
| Analysis of Goods— | | |
| Cotton Goods proper (total) | 192 047 000 | |
| (To French Colonies 115 320 105) | | |
| Coloured Cloths | 112 000 000 | |
| (Half to Colonies and half to England U S A Argentine | | |
| Bleached Cloth | 37 000 000 | (Colonies) |
| Grey Cloth | 28 000 000 | (Colonies) |
| Coloured Goods | 7 500,000 | (Turkey) |
| Prints | 5 000 000 | (Colonies) |
| Lace | 65 045 000 | |
| (60 000,000 machine made) | | |
| U S A being customer for two thirds | | |

| | Francs | |
|---|---|---|
| Embroidery | 20 604 000 | Britain and U S A |
| Tulles | 19 491 000 | |
| Ribbons | 17 636 000 | South America Britain and U S A |
| Passementerie | 17 737 000 | |

The conclusion can be directly drawn from these figures that the colonial market is really the only one held by the cotton industry proper, as the outside sales amount to 77 000 000 francs, or just over £3,000 000 at par of exchange

The full significance of this fact is understood when the French colonial regime is kept in mind The Empire includes four types of colony (1) Algeria not considered a colony in the French sense, but as part of France, and enjoying the advantages of free trade with the home country it is included in the tariff zone of the metropole, (2) Tunis, which preserves its own "tariff personality," although there is preferential treatment with France, (3) the large group of colonies where the tariff is "assimilated" to that of the home country, the chief being Indo China and Madagascar, (4) the scattered stations and protectorates which have tariff personality of their own, of which West Africa the stations in India and in the West Indies may be cited In the first and third classes, the home tariff gives the market to the French industry, in the second it gives preference a French critic of the policy has suggested that it is misleading to class these markets as foreign, they are part of the *zoll-verein*

Without unduly labouring this point, a further analysis of the foreign trade in plain and twilled, bleached and dyed goods, shows the distribution in colonial markets

COMMISSION PERMANENTES DES VALEURS EN DOUANE

| | 1909 Francs | 1908 Francs |
|---|---|---|
| Algérie M T | 10 913 000 | 11 817 500 |
| Indo China M T | 6 037 200 | 6 094 000 |
| Madagascar M T | 3 954 600 | 2 449 400 |
| Réunion M T | 691 700 | 341 500 |
| Indes françaises T P | 37 700 | 11 200 |
| Tunisie T P | 54- 000 | 556 700 |
| Sénégal T P | 506 500 | 360 090 |
| Martinique M T | 419 100 | 352 000 |
| Guadeloupe M T | 190 700 | 252 300 |
| Congo T P | 46 200 | 44 300 |
| D Afrique Côte occidentale T P | 184 300 | 70 000 |
| Nossi Bé M T | 224 400 | 81 300 |
| Colonies Autres | 210 200 | 182 400 |
| Pays Autres | 9 483 500 | 8 531 600 |
| Totaux | 33 344 000 | 31,145 100 |
| Colonies | 23 860 500 | 22 613 500 |

M T = Metropolitan Tariff T P = Tariff Personality

It need hardly be said that the policy of the closed market is being steadily criticised in France, especially by those industries which export and find themselves severely handicapped in neutral markets, and further by those sections of the cotton weaving and derived industries which could greatly expand their markets with a cheaper yarn The more controversial aspects of this question are left over for later mention

The application of the metropolitan tariff to the colonies has had one result, however, which is far from pleasing to the authors of the Tariff Act of 1892 In Indo-China, cotton spinning factories have been erected at Hanoi, Haiphong, and Namdinh , they have already begun to export and the industry has prospects of expansion In Pondicherry and Chandernagore factories have been planted, the products of which compete with those of France in Cochin China These developments would undoubtedly have come in time, but they have been hastened by the high tariff The following statement by M Melinet is of interest in this connection as explaining the attitude of the French manufacturers " In a good colonial organization, colonial production should limit itself to furnishing the mother country with raw material, or products not similar to those we produce , but if colonial production renounces this function and seeks to enter into a ruinous competition with us, it becomes a dangerous adversary "

From this survey it is apparent that the French cotton industry can be fairly described as belonging to the protected and non-exporting group

## CHAPTER V

### EMPLOYERS' ASSOCIATIONS AND INDUSTRIAL POLICY

THE freedom of association of those engaged in the same or similar occupations, which had been tolerated up to 1884, was formally recognised and guaranteed by the law of 1884 upon the " Syndicats Professionels ' This statute of chief importance both for trade unionism and for associations of employers, made it legal to set up professional groups, having for their object ' the study and the defence of their interests, economic, industrial commercial, and agricultural " This power of forming groups was amplified by the Act of 1901 upon the contract of association which allowed, subject to certain elementary legal conditions, any form of non-profit making society

The employers' associations of this type in the cotton industry consist of 15 local groups and two federations The groups are naturally representative of the various cotton regions described , the following list gives the public designations of those directly connected with the cotton industry, their head-quarters, and the number of their adherents in 1911-12 —

| ADHERENTS 1911-12 | | | HEAD QUARTERS |
|---|---|---|---|
| (39) | (1) | Le Syndicat Normand du Tissage de Coton | Rouen |
| (51) | (2) | Le Syndicat Normand de la Filature de Coton | Rouen |
| (24) | (3) | L Union de l Industrie Cotonnière de Roanne Thizy et la Region | Roanne |
| (104) | (4) | Le Syndicat Cotonnier de l Est | Épinal |
| (30) | (5) | Le Syndicat de l Industrie Saint Quentinoise des Fils et Tissues | St Quentin |
| (23) | (6) | Le Syndicat des Filateurs et Rétordeurs de Coton de Lille | Lille |
| (22) | (7) | Le Syndicat des Filateurs de Coton de Roubaix Tourcoing | Roubaix |
| (9) | (8) | Le Syndicat des Indienneurs Normands | |
| (7) | (9) | Le Syndicat Cotonnier de Bolbec Lillebonne | Bolbec Seine Inférieure |
| (10) | (10) | Le Syndicat des Teinturieurs en Coton Filés de la Seine Inférieure | Rouen |
| (27) | (11) | Le Syndicat Picard des Industries Textiles | Amiens |
| (23) | (12) | Le Syndicat Patronal de l ind Textile du Haut Rhin du Doubs et de la Haute Saône | Belfort. |

| Adherents 1911 12 | | | Head-quarters |
|---|---|---|---|
| (29) | (13) | Chambre Syndicale de la Fabrique de Tarrore | Tarrore |
| (10) | (14) | Le Syndicat des Industriels Textiles de Laval et de la Mayenne | Loval |
| (6) | (15) | Union des Tisseurs de Flers et de la Région | Flers |

There are also "Syndicats" for hosiery at Troyes (33*), and at Falaise (13*), for lace at Calais (314*), for embroidery (17*), lace (137*), tulle (60*), at Caudry

In addition to these local societies, there are two federations and one society which require mention

(1) Le Syndicat Général de l Industrie Cotonnière française (29) (Paris)

(2) L Union des Syndicats Patroneaux des Industries Textiles de France (Paris)

(3) L Association Cotonnière Coloniale (Paris)

The table shows the two chief characteristics of the division into groups by (1) locality, and (2) by process, spinning, weaving, and so on, it also brings into relief two difficulties which have faced those moulding the policy of the industry, the problem of obtaining united decisions from so many groups upon (1) urgent questions such as the introduction of short time in spinning, and (2) upon questions where there is a conflict of interests between different sections of the industry, the tariff may be taken as a case where obvious divergence arises, since the protection afforded to the spinner may be sufficient to make it impossible for the weaver to conduct an export trade, or the "admission temporaire" of cloth for printing, may be considered to be to the detriment of the home manufacturer

The associations discuss and come to conclusions upon questions which may be classified in the following way —

(1) Tariff requirements and modifications

(2) Regulation of transport rates by rail, canal or sea

(3) Standardization of commercial practices and rules for the conduct of business, with allied subjects such as insurance rates

(4) General business conditions as affected by foreign trade, by the securing of export markets, by periods of depression and crises

* Number of Members

(5) Policy towards labour as raised in labour legislation, conciliation and arbitration between employers and work-people, work and health of women and children, social institutions, and employment bureaux

(6) Influence of taxes on industry

(7) Problems affecting the technique of production (applications of electrical power to industry) and the general organization of the trade (selling methods and the position of intermediaries)

All matters generally affecting the interests of the industry are therefore within the scope of the syndicate but they are to be kept distinct from companies and associations for the regulation of prices, production and sales, although the line of demarcation between the "Comptoir" or "Kartell" and the "Syndicat" made on legal grounds, is growing somewhat difficult to trace in the economic sphere The French view has been that the employers' syndicats stopped short of actual price regulation, and in 1904 several of the cotton unions expressly denied before a Government Commission on the textile trades that even minimum price agreements came within their scope, but the course of events has practically compelled the further advance towards such agreements

In surveying the many-sided activities of the syndicats, the two federations may be first mentioned The "Syndicat General" of the French cotton industry was formed in 1901 at a time of depression, and had gained the adherence of the chief groups, "its principal departments are statistics of purchases, sales, and production, and it proposes the bringing about of an understanding between the different united groups on the subject of the claims which the French cotton industry believes itself legitimately entitled to put forward to the authorities, especially with respect to custom-house tariffs, commercial agreements, and so forth It is even its duty to invite such demands on the part of the affiliated associations or syndicats, and to centralise them in order to succeed in bringing about for the benefit of its members, a movement which would be all the more efficacious through not being scattered "[1]

The "Union Textile," founded in 1900, began with the adherence of 22 syndicats, in 1904, it grouped 58 syndicats with 2,254 establishments, and in 1912, 66 unions were repre-

[1] Vienna Congress, p 241

sented It claimed to defend the interests of the textile industries, and to concentrate their efforts and represent them where common action was judged necessary, but it excluded questions of free trade and protection It worked by centralizing information, inviting the opinion of the syndicats and recommending lines of action in questions of general interest, it organized common action by petitions, meetings, and delegations to public authorities

The group syndicats deal with the same matters as the general association, and in the three chief regions they represent a very large proportion of the important firms and can make decisions which carry weight The statistics of the international association show for 1911 the number of spindles and looms belonging to the bodies affiliated and the figures for France are 4 750,000 spindles (7,300 000)[1] and 70,000 looms (120,000)[1] but certain syndicats are not reckoned in this total In the reports and resolutions of these societies is to be found the employers standpoint regarding the chief matters of general interest in the development of the industry and some reference to a few of the problems serves as an indication of the outlook of the leaders of the industry Leaving aside a large number of labour questions which can be more easily treated in relation to trade unionism and the standard of living of the operatives, there are the fluctuations in trade and periods of crisis, and the proposals in connection with tariffs and taxation

It is the opinion of the great majority in the industry that the revised tariff of 1910 is the absolute minimum necessary to safeguard the home market, and it is of interest to note that the efforts of the syndicats are now turned to the capture of such French colonial markets as are not already under the metropolitan tariff The method is characteristic, it is not by any attempt to export goods cheaply to meet the native needs, but by the simple and effective expedient of closing the market to outsiders by the application of the metropolitan rates that trade is to be developed "We ask," said the Syndicat Cotonnier de l'Est, "that the colonies which are not already under the metropolitan customs regime and for which, as in the case of Senegal, we are not bound by previous agreements or by material impossibilities, should be under the home tariff" "These are important markets which we see no necessity to abandon to strangers, and our home trade would be aided in

[1] Total equipment.

a proportion which is not to be disdained" In fairness to the cotton manufacturers it is to be borne in mind that their policy is typical of French ideas

The Syndicat de l'Est also opposed all proposals to establish free ports or to re-introduce the "Admission Temporaire" The Roanne group had been strong supporters of the "Admission Temporaire," which allowed them to import yarns duty free for their export trade in fabrics, before 1870 the Alsatian group especially the printers had stood for the same policy, but after 1892 this privilege was suppressed and there was substituted for it a compromise whereby all imported yarn paid the dues but reimbursement to the extent of three-fifths of the duty took place on the export of the fabrics made with the yarns The free ports were opposed, because they were believed to allow the disloyal competition of outsiders In short the attitude of the industry on all tariff questions is strictly protectionist

## TRADE DEPRESSIONS

The subject, however, which has received widest attention among the syndicats is the recurrence of periods of depression, and the measures which are designed to ameliorate them

To the facts and causes of these ebbs and flows, nothing more than passing allusion need be made as much has been written upon economic crises and their periodicity, and M Aftalion has already used the evidence of the cotton trade in his study of "Les crises périodiques de surproduction" The Syndicat Cotonnier de l'Est furnished two graphs of the margins of price (1) between raw cotton and yarn and (2) between yarn and calico in 1904 as evidence to the Parliamentary Inquiry of Fluctuation These, together with the curve of consumption of raw cotton (see Chap I), are held to indicate that the years of the crisis were 1879, 1883–4 1889–90 1902–3 and 1909–10 It is not posssible to check these dates by averaging the profits of public joint stock companies, since, as already explained, that form of management is not representative and there is no information regarding the rate of profits in the industry

The causes of these fluctuations have been classed as (1) variations in the amount and price of the raw material, (2) variations in the rate of increase of fixed capital, and (3) variations in demand The second of these is held by M Aftalion to be the fundamental cause of periodic variation,

TABLE I

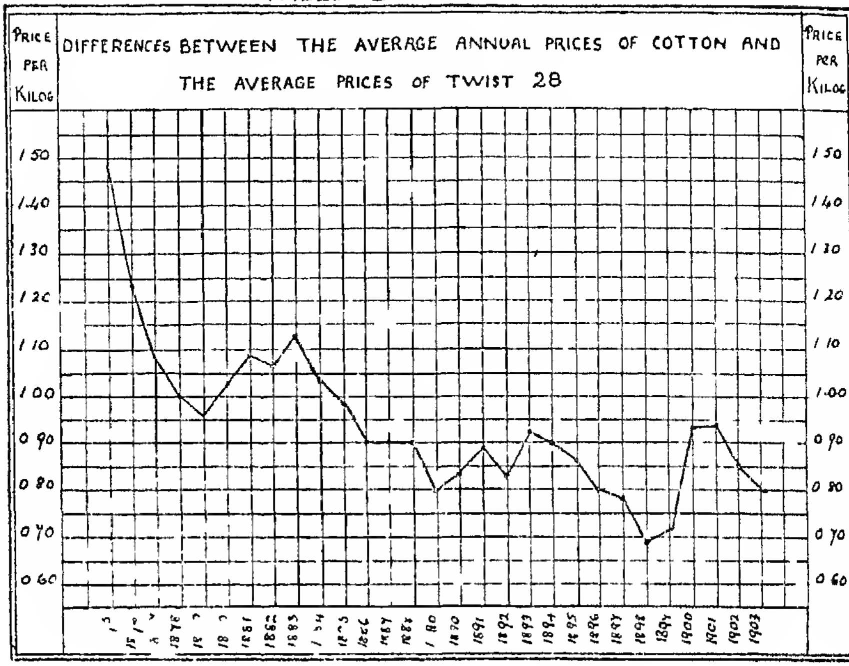
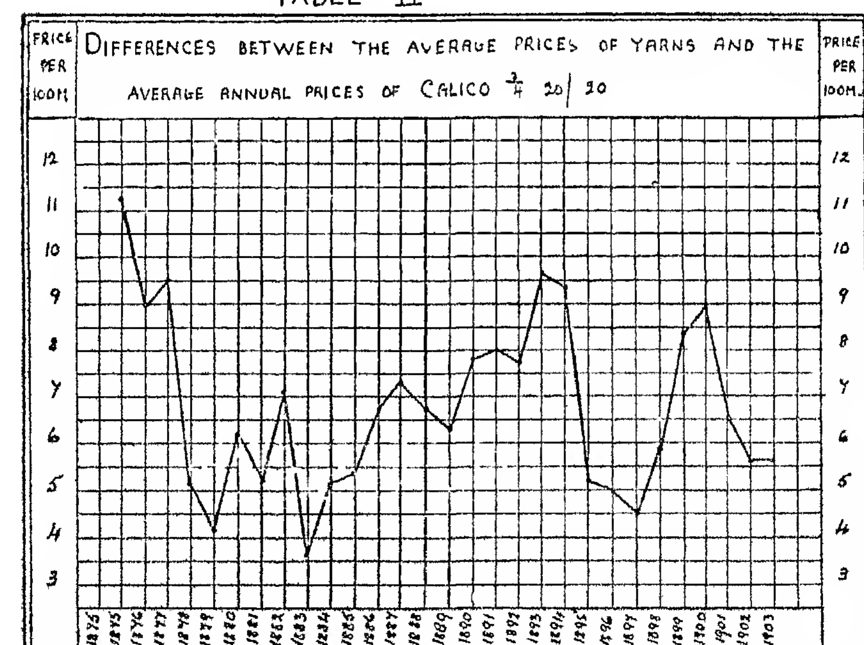



TABLE II



spindleage is not increased evenly, the long period which it takes to produce this form of fixed capital upsets the equilibrium of demand and supply. The policy of the industry has therefore been developed to meet these conditions, attempts have been made to extend the area of cotton cultivation in French colonies, and "short time" has been introduced to meet crop shortage and undue speculation, short-time is also employed to check undue accumulation of stocks, and efforts are made to preserve minimum prices by means of "ententes" or more rarely, by creating a "comptoir" to operate, preferably in foreign markets.

The "Association Cotonnière Coloniale" was founded in 1903 after the model of the British Cotton Growing Association (1902), its aim was to conduct experiments in the French colonies in the cultivation of cotton and to test the possibility of putting the crop on a commercial basis and in a suitable rotation. Its work began with subscribed funds amounting to 153,000 francs. In 1906 it received a subvention of 56,000 francs from the State, this has been increased, but the resources are hardly adequate to the object in view. It had in 1913 nineteen mechanical ginning factories in full work in the French colonies, and had presented gins and presses of all systems to companies, planters and administrators in almost every French possession. The amount produced under the auspices of the association was 715,000 kilos in 1913 and 900 000 kilos in 1917, but this does not include all cotton grown in the colonies.

It is to the African colonies that chief attention has been given and the adaptation of different types of seed to different climates has been tested.

PRODUCTION IN FRENCH COLONIES IN 1913

| | | | |
|---|---|---|---|
| Senegal Niger produced | | 106 500 kilos | |
| Dahomey | | 175 500 | |
| Ivory Coast | | 40 000 | |
| Algeria | ,, | 180 000 | |
| Oceania | , | 274 000 | |
| Cambodia | | 5 586 000 | (Quality slightly superior to Indian staple, purchased by Japan) |

The work has included (1) seed breeding tests to create suitable stocks for localities and to test the varying yields (2) multiplication of the best types and acclimatization trials, (3) the testing of different methods of cultivation soil preparation planting manuring, prevention of disease and pests, and the use of irrigation, (4) the fitting of the cotton crop into suitable rotation systems, (5) the training of native farmers The period of experiment has had valuable results, not merely in testing the possibility of growing cotton of good staple but in bringing into view the essential difficulties of changing over from experimental to commercial production of a continuous character In Algeria and contiguous areas it seems as if the transition could be successfully made since the crop is now included in a regular rotation, but in the greater part of Africa the problems are not yet solved They consist in (1) labour difficulties produced either through scarcity or through the presence of easier alternative ways of earning a living, the oil palm forests of West Africa provide considerable resources to the natives without serious effort, (2) the methods of both internal and sea transport are an obstacle to development, both because of slowness and cost, but the extension of the railway system will diminish this drawback, (3) certain areas can only be successfully cultivated by irrigation systems and this involves the investment of considerable sums of capital, (4) it is not the opinion of the managers that cultivation on large plantations under direct European supervision is feasible, and they look to the extension of native farming work with guidance from Government officials experienced in agriculture It is not yet clear whether cotton growing in French Colonies will furnish an appreciable proportion of the raw material and much of the experimental cotton is nearer to Egyptian than to American staple, a new factor will be the possibilities of the spheres of influence in Syria and Africa

### SHORT TIME

The method of short time is therefore the most immediate and effective weapon possessed by the spinners for checking the influence of speculation upon short crops, the over-extension of world spindleage, and the falling away of demand

The reduction of working time per week has been used in France in the crises of 1896–7, 1902–3–4, and 1909–10, but it has taken a considerable amount of propaganda to overcome opposition to the method, and the different groups have not

been equally ready to resort to the practice This has been due to the different degrees in which the districts have felt fluctuations, which again depends in part upon the kind of goods produced, whether 'standard" or "nouveautés,' and the elasticity of the market It is also caused by the fear of the French industrial to bind himself in any executive action unless there is a guarantee that the greater part of his colleagues are to do likewise The full advantage of the measure can only be reaped if the stoppage is general at the same time "Isolated short-time, not on an organized basis is a sacrifice without effect" The chief syndicats have not always been in a position to bind 75 per cent of those engaged in the trade

The timid approach is also due to the obvious losses involved (1) in leaving labour partially unemployed and therefore more easily to be attracted to other industries, and (2) in general expenses, since the loss in this respect may on many occasions exceed the loss caused by sale of yarns if the unremunerative prices covered more than the prime costs of cotton, labour, and motive power The Est has been less inclined to reduce time owing to the labour difficulty and to steadier markets than the other groups, it pays half wages to workers for the time lost Under the stimulus of English example there was a considerable stoppage in 1904 In spinning the Est curtailed production by 15 days in two months, Normandy stopped for a similar period, and the Nord ran five days a week for eight months In weaving the main groups diminished output by at least 15 days, the Saturday stoppage being usual

## SPINNING

As a result of this period of depression two proposals were put forward, one for spinning and the other for weaving, which are indicative of the trend of policy rather than of actual achievement, they were meant, together with "short time," to preserve a minimum level of profits and to prevent the crushing effect of vast stocks which immobilised floating capital The terms of the plan for spinning were (1) the recognition of the principle of identical minimum prices in the different groups (2) the spinners committee in Paris will centralise information as to sales, stocks, etc, and will fix every two weeks the minimum prices to be kept by spinners in the three groups, (3) to facilitate the establishment of

these minimum prices, discount and other conditions of sale (cost of transport, packing, differences of price between counts, terms of payment and credit) will be unified by the three "syndicats" The minimum prices were to be fixed for the counts, 14 20, and 26, but this national tariff was too big a step for the French spinners to take at once, however, the idea of such regulation has become implicit and its effect is seen in the crisis of 1909–10 and more generally in the work of the "Syndicat de l'Est" In 1911, the late M Casimir Berger reported to the Barcelona Congress, that "each of the cotton districts had now resolved upon short time" with minimum price regulation "An agreement would be possible between the Nord and Normandy to establish a similar rule as regards minimum price and short time" The Norman plan is stretched out in the form of a temporary agreement "The object of the minimum price is to fix a minimum selling price based upon the cost of the raw material, and giving the spinner a margin allowing him to get as near as possible to his net cost" "This minimum changes automatically according to the rise or fall of raw material a variation of 2 50 francs in the season's price gives a variation of five centimes per kilo up or down in the minimum price Short time is also imposed automatically If the stock per spindle, returned monthly, exceeds 2 kilos 500 grammes, short time is compulsory In this case, the short time enacted is one day for each surplus of 100 grammes or portion of 100 grammes, to take effect within a stipulated time If, in spite of this measure, the stock should grow to exceed 5 kilos 500 grammes per spindle, short time would have to be increased to a day and a half per week A rigorous supervision is imposed, both as regards the minimum price and the application of short time" The "Syndicat General" had formed two advisory committees, one for the spinners and the other for the manufacturers, to take general measures to prevent or minimise crises

## ORGANIZATION IN THE EST

Since 1904 the Syndicat de l'Est has had a scale of differences of prices between counts and these margins are added to or subtracted from the bases, which are for twist numbers, 20 and 28, for weft, 20, 26, 37, and 41

The following extracts are taken from the scale of prices for different counts holding in 1912 for the Syndicat de l'Est

| (French) Count | Twist Difference from base price | Count | Weft Differences |
|---|---|---|---|
| 26 | 3 centimes down | 35 | 4 centimes down |
| 27 | 1½ centimes down | 36 | 2 centimes down |
| 28 | Base Market Rate | 37 | Base Market Rate |
| 29 | 5 centimes up | 38 | 15 centimes below 41s |
| 30 | 10 centimes up | 39 | 10 centimes below 41s |

This prevents any bargaining between counts owing to special market conditions, and as the association is normally representative there is a sufficient weight behind private *ententes* to enforce what have been in effect minimum prices for base grades There was also formed in 1905, a " comptoir " of Egyptian yarns at Épinal and to this and similar organizations of export societies further reference will be made

### MANUFACTURING

In weaving the proposal for joint action was more partial and tentative , it consisted of (1) an extension of the system of collecting statistics to make a basis for estimates of the state of the market, and (2) the study by a permanent committee of the project of a "comptoir ' to sell both in the home and foreign markets

The difficulties occasioned by the large number of small and scattered enterprises and the lack of uniformity of output and mass production, have made the development of a scheme of manufacturing margins based upon yarn costs too difficult as yet for achievement and it seems as though the tendency will be to use specially created selling companies for the standard as distinct from the fashionable production

### COMPTOIRS AND OTHER PRICE ASSOCIATIONS

It is not only in the cotton industry among the textiles that the employment of comptoirs is being considered, and some reference may be made to this tendency Although in one or two lines the combination movement is as complete and as effective in France as in any country, yet the extent is much less, and this backwardness is due to the absence of mass production, to the small part taken by France in international competition within the last half-century, and to the large proportion of specialities in her output

French lawyers also lay some emphasis upon the effect of the criminal code (Arts 419 and 420) of 1810 which has, in the opinion of many, unduly repressed open attempts at combination It runs as follows — All those who by deliberately spreading abroad false or slanderous facts, by offering a higher price than that asked by the vendors themselves, by association or coalition between the principal holders of the same merchandise or food stuffs, whether with a view to withholding them from sale or with a view to selling them only at a certain price, and all those who, by any fraudulent means, shall effect a rise or diminution in the price of food stuffs, or in the sale of public securities above or below the price determined by natural or free commercial competition, shall be punished by an imprisonment of one month to one year and by a fine of from 500 to 2,000 francs"

There has been some hesitancy in the interpretation of this enactment, and this has led to greater secrecy in agreements and understandings regulating prices as well as to the prevalence of gentlemen s *ententes* or verbal contracts It does not appear that cartels, comptoirs, and other prices agreements of a defensive nature are aimed at, but rather corners and highly speculative operations of a more temporary character , it is, however, open to serious doubt how far a "comptoir" which had achieved monopolistic power would be assailable by a criminal action, since the test is the "real" object of the combine and the price charged by the combine in relation to the price level determined by free commercial competition French public opinion is severe on monopoly, as it has had a chastening experience of government management of monopolies, and there is a smack of Adam Smith's system of natural law about the articles , the vagueness of interpretation of an old regulation in new conditions, which it was never designed to meet, has made French industrials desirous either of its repeal or amendment

This movement to a more complete type of association than the syndicats is seen in the cotton industry in the "comptoirs" or sales agencies, and the systems of bonus on exported yarns in spinning , in weaving it is not seen at all except in the suggestion of joint selling agenices at home and in foreign and colonial centres The Comptoir des Files Jumel de l'Est was a small joint stock company, founded at Épinal in 1905 with a capital of 40,000 francs , it bought the yarns at certain minimum prices from the associated firms and sold, if

possible, abroad, it had disciplinary powers over its members for infraction, and could impose short time if the stocks grew unduly, but it was more a child of the depression than a definite attempt to set up a sales association of the German type, where the selling business would be taken out of the hands of individual members and given over to a special department, and where the output for each constituent firm is determined on the basis of previous production, leaving only the technical management to the individual firms

The systems of bonus on exported yarns were also temporary expedients to lighten an overloaded market rather than systematic attempts to "dump" yarn abroad at prices lower than those ruling in the home market It was always at times of depression that the fines collected from those who did not conform to the short time regulation were used to favour, to the extent of 5c, 10c, or occasionally 15c the kilo yarn which was exported The Fine Cotton Spinners' and Doublers Association held a main interest in its chief French competitor in Lille, but it cannot be reckoned a French amalgamation In weaving there is no sign of amalgamation beyond the type of the "syndicat," and the notion of sales agencies for "French elegancies" has been pressed from outside sources (e g consular reports)

There has, however, been considerable discussion on the cost of selling fabrics by intermediaries and the efforts at direct selling may be extended by some firms in order to eliminate or keep check on wholesale merchants It appears that experiments are likely to be made to see how far the selling functions may be taken over by the industry, just as efforts are being made to exercise some control over the supply of raw material on an international basis In both the dyeing and printing trades there are no cartels, but the "*ententes*" and "understandings" are so thorough as to allow control of prices and production

One main cause of fluctuation, the irregular and spasmodic increase in spindleage and other capitalistic agents is however, left untouched, and there is no way of checking the flow of capital into an industry except by monopolistic action and the masking of profits, and these policies are only partial in their effect

One other form of association seems to deserve mention in its relation to the cotton trade, although it is not strictly an employers' syndicat, that is the Chamber of Commerce

### THE CHAMBERS OF COMMERCE

The French Chambers of Commerce are by the laws of 1898 and 1908 the official organs of industrial and commercial interests in their department, and certain of these, of which the Chambers of Lille Rouen, Épinal Belfort Roanne, and Mulhouse may be mentioned, have been closely associated with the growth of collective action in the cotton industry, and with the provision of institutions of general utility such as testing houses for yarn and fabrics

The electorate includes broadly all holding executive positions in industry and commerce, partners and directors of companies, exchange agents, brokers, and so on, and there is at least one Chamber of Commerce in a department The number of members is determined by the decree setting up the Chamber, it cannot be less than nine or more than 21, election is for three years, one-third of the membership being renewed every two years, and former members are always re-eligible

The powers of the Chambers are (1) to give advice and information to the government on industrial and commercial questions, (2) to present their views upon such questions, (3) to carry on certain works and services necessary to commercial interests The advice of the Chambers may be asked on commercial usages, labour questions, markets, warehousing accommodation, upon the transport rates and upon the utility of public works in their area, the chambers may express their views upon all questions of commercial and industrial legislation tariffs, and transport, they may found and administer public commercial institutions such as general warehouses, public markets, testing houses, commercial expositions and museums, professional schools and courses of instruction, the administration of such services may also be delegated to them by the State or municipality The Chambers may be declared concessionaries of public works or charged with public services, in approaching ministries or other Chambers, the method is direct correspondence The ordinary expenses of the Chambers are defrayed from public taxation, and loans may be contracted for any approved object

Besides representing the general interests of the cotton trade, testing houses have been maintained at Lille, Fourmies, Amiens, Roanne, Tourcoing, and the Textile Union has passed resolutions calling upon the Government to allow the Chambers of Commerce and the "Syndicats" to give a reasoned opinion upon legislative projects before they are adopted

# CHAPTER VI

## LABOUR CONDITIONS, WAGES AND TRADE UNIONISM

THE cotton industry has been classic ground in the study of the influence of large scale capitalistic methods of production upon the welfare of labour[1], as the well-being of the work-people is one of the tests used in estimating the value of a trade to the community, a few of the main facts and leading features in their position may be stated

The chief points requiring attention in this connection concern (1) wages questions, (2) the regulation of working hours, (3) the extent and character of trade union organization, (4) the schemes of social foresight and assistance initiated both by individual firms and by public action, (5) the general standard of living, including the cost of living

### METHODS OF INDUSTRIAL REMUNERATION AND WAGES QUESTIONS

The total number of those engaged in cotton spinning and weaving has been stated as 167 000, and the following summary of sex and age composition is of use in showing additional features of the supply —

| | 1906 | | Chiefs | | Salaried Officials | | Work people | |
|---|---|---|---|---|---|---|---|---|
| | M | F | M | F | M | F | M | F |
| Cotton Spinning 43 193 | 19 756 | 23 437 | 261 | 12 | 1 588 | 143 | 17 544 | 22 844 |
| Cotton Weaving 112 025 | 50 153 | 61 827 | 3,213 | 2 378 | 4 379 | 252 | 38 371 | 55 126 |

Cotton Spinning—1896 {M 16 500, F 10 500}  Weaving—1896 {M 37 000, F 41 000}

Proportion of women to 100 men among work people —

| | M | F |
|---|---|---|
| Spinning | 100 | 130 |
| Weaving | 100 | 145 |

Age percentages (total industry) —

| Less than | 18 | 18–24 | 25–34 | 35–44 | 45–54 | 55 upwards |
|---|---|---|---|---|---|---|
| Male | 15 7 | 17 4 | 25 | 19 | 12 7 | 10 2 |
| Female | 19 1 | 25 8 | 23 9 | 14 | 8 2 | 5 9 |

Foreign Work people —3 540 (Nord 3 400)

[1] See Schulze Gaevernitz, *La Grande Industrie*

Sex and Age Composition for the Chief Cotton Departments

| | Work people | | Percentage of Male to Female Labour | |
|---|---|---|---|---|
| | M | F | M | F |
| Nord | 8 800 | 10 970 | 100 | 125 |
| Seine Inférieure | 10,200 | 18 400 | 100 | 184 |
| Rhône and Loire | 7 800 | 8 150 | 100 | 118 |
| Est District | Spinning | over 18 | 100 | 78 |
| | Weaving | over 18 | 100 | 150 |
| | Spinning | under 18 | 100 | 100 |
| | Weaving | under 18 | 100 | 150 |

It therefore appears that the proportion of men to women is greater than in England, Germany or Italy, but less than in the U.S.A.; the number of women is, however, increasing much more rapidly than that of men. While it is not possible to give the relative numbers in each grade of labour, it has to be kept in mind that relatively highly-paid men like mule minders form a very small proportion of those engaged in a spinning mill, on the average, one out of every twelve occupied, but in weaving there would be two weavers to every three persons occupied.

Passing to the methods of paying wages, carders, frame-tenters, mule spinners, and weavers are on piece rates, but on ring spindles either time or piece rates may be the rule. According to the law of 1909 wages must be paid at least twice a month, 16 days being the maximum interval between payments; in weaving, weekly payments may be the rule; warning usually extends to the fortnight, but here also some localities shorten to the week; advances on wages are agreed to and fines are imposed for (*a*) bad work, and (*b*) disciplinary reasons, lateness, cleaning machines while going, breaking factory rules, theft, and so on. These deductions from wages are a very fruitful source of trouble, and in many strikes they appear among the leading causes of friction; the employers hold that this method is necessary to preserve discipline and to guarantee themselves against bad work; the majority of them pay the amount of the disciplinary fines into welfare schemes connected with the firms. It is probable that if the arbitrary character of imposition could be removed by works

committees, the difficulty could be lessened, as it is often "the suppression of arbitrary fines" which is demanded rather than the abolition of the system of fines

UNIFORM LISTS

There is no uniformity of the piece rates for the same work as in Lancashire Each spinner and manufacturer is at liberty to draw up his own list, and so it comes about that in the same town and district firms can be found paying rates which sometimes differ by as much as 20% for the same class of labour

The grounds upon which this bewildering lack of uniformity is supported by the employers are (1) the great diversity in the counts and articles produced which may include novelties, mixed goods and fashion fabrics (2) the differing capacity and age of machinery, (3) the variation in cost of living between town and country districts "So many firms so many lists," says one syndicat, "because everything is unstandardized" "Unification of lists is no more possible than unification of wages" It need hardly be said that unification of lists is a leading demand on the part of the textile unions, they point to the obvious unfairness of one employer disloyally competing with another and bargaining in an anti-social manner with labour, it is also seen that this policy of separate lists is a main obstacle to collective action, crippling trade unionism

Reviewing first the arguments which have been used against uniform lists, the statement that they are not possible may be put aside, since Roanne district has had a uniform weaving list since 1894 Quoting from evidence given before the parliamentary inquiry in 1904 "a worker in the textile industry of our region at Roanne at Thizy, or in the region, making such goods as aprons, flannel shirtings, articles mixed with silk, articles for overalls, receives for each of these tissues, in whatever factory he works, a practically fixed amount, apart from certain differences, slight in character and justified between town and country sheds" This unification of piece-rates incontestably advantageous for the worker, does not appear to us to present any inconvenience for employers" It has been said that the Roanne equipment is more uniform and its work more specialized to certain articles than that of other districts but the work of Roanne is not more standardized than that in the Vosges, as already described, it consists

largely of light goods and fancies St Quentin district has also had a uniform list for a shorter period The diversity of counts and fabrics increases the complexity of such lists but not to any greater degree than in the regulation of prices, and this is already done for base grades both by spinners and manufacturers

In spinning most influences, not dependent on the operative but tending to increase or decrease his work or output, can be taken into accounts in lists, in manufacturing the number of factors affecting wages is greater, the varieties and continual changes of patterns do constitute a strong argument against undue rigidity in application, a district list under French conditions could hardly be comprehensive, but it might deal with standard articles It is difficult to see why capacity and speed of machinery cannot be accounted for as in Lancashire so as not to penalise workers on the old machines, and it can hardly be suggested that operatives should compensate employers for less efficient machines, nor does it seem tenable to hold that because one factory has certain disadvantages in production, for example in transport, therefore it should be able to buy its labour cheaper than its neighbour to level matters up

The third point as to variations between the cost of living in town and country deserves investigation, but it seems doubtful how far the country level is lower and time is diminishing such differences There appears to be room for district lists in Normandy, the Nord, and the Est, and it is difficult to see how fair-minded employers could be injured by such agreements It is widely recognized that individual lists are not created *in vacuo*, but are based upon a time wage sufficient to afford the customary standard of living and to preserve the labour supply of the industry from being attracted elsewhere The advantage of the uniform district list would be to compel backward employers to reach the standard of the fair employer, if used, as in Lancashire, the list could be employed to force up the efficiency of capital equipment and management

This question of a uniform list is not to be confused as is done in some French writings with a minimum time wage, although the two are related The effect of a uniform list is not to produce equal earnings, any more than an individual list would make the earnings of workers of different capacity equal, what it should do is to make equal the earnings of two men of equal productive efficiency in two different mills in the

same district That is exactly what the present system does not effect, and it is difficult to see why one employer should purchase his labour power more cheaply than another in the same region

As long ago as the commission of inquiry in 1904 the question of minimum time wages for different classes of labour in the textile trades was raised but the matter has not been worked out in the cotton trade and the employers' syndicats have criticised the idea as impracticable The notion is, however, implicit in the wage policy of many of the leading spinners and manufacturers, since it is upon such customary standard of wages that their piece rates are based "The whole of the lists in force in the manufacturing districts are based upon the supposition that fair material and appliances will be supplied to the hands, so as to enable them to earn a fair wage "[1] The matter is only likely to become practical with the development of trade union policy, the '*Réveil Syndical*," a workman's journal in Épinal, published in 1910 a list of the minimum wages demanded for each grade, it suggested ordinary trade union pressure to achieve the use The idea of Trade Boards had before 1914 attracted little attention in France

There is no attempt at profit sharing, but various forms of bonus or premium on production are widely prevalent, a usual system is to add an amount equal to 10% of the wage if a given production is surpassed There is much to be said for this system, and it has been suggested as a desirable addition to the usual Lancashire method, the ordinary piece rate differentiates against a good worker because it allows nothing for the saving in the machine's time with the lessened fixed charges, but the idea is not favoured by the trade unions

Workers are taken on directly by the inside manager sometimes by the employer, the "Livret" or workman's certificate of service is optional, but some firms make it compulsory, there is no organization of the labour market by exchanges but the Norman Employers' Syndicat have a bureau for special classes of workers, engineers, repairing hands, and foremen

## WAGES RATES (1910–12)

The rates are for the full working week of 60 hours They give some idea of the range of payment for skilled work in different localities, for comparison certain Lancashire rates for the same period are quoted, but for a full working week of 55½ hours

[1] *The Lancashire Cotton Industry* Chapman

TABLE OF WAGES

WAGES IN THE FRENCH COTTON INDUSTRY

| Spinning and Weaving | 1910–12 10 hours per day 60 per week | | | | 55½ per week 9¼ hours day |
|---|---|---|---|---|---|
| | Normandy (Rouen) per day | Nord (Lille and Roubaix) | Est (Épinal and Belfort) | Roanne | Lancashire |
| Mule Spinners | 4 50–6 00 | 5 50–6 50 | 4–5 (Belfort 4 80–5 20) 4 50–5 60 (Egyptian) | — | 7 70–9 60 |
| 1st Piecer | 2 90–3 25 | 3 30–3 70 | 2 75–3 40 (60% of Spinner) | — | 3 60 |
| 2nd Piecer | 2 40–2 50 | 2 60–2 80 | — | — | 2 40 |
| Creelers | 2 10 | — | — | — | — |
| Ring Spinners | 2 90 | 2 40–3 40 | 2 35–3 75 | — | 3 00–3 50 |
| Scutchers | 3 10–3 50 | — | 2 50–3 50 | — | 3 90 |
| Cardroom | 3 20–3 70 | 3 30 | 2 75–3 00 | — | 5 90 |
| Labour | 2 90–3 40 | 2 90–3 50 | 2 50–3 25 | — | — |
| Weavers (2)[1] | 3 00–3 60 | 3 70–4 50 | 3 00–3 75 | 3 25–3 50 | 2 60–3 00 |
| " (3) | 3 30–3 60 | | 3 40–3 75 | 4 00 | 3 90–4 50 |
| " (4) | 4 00–4 20 | — | 4 00–5 00 | — | 5 20–6 00 |
| Northrop (6) | 3 10–2 50 | — | — | — | — |
| " (8) | 3 40–3 75 | 5 00 | — | — | — |
| " (10–12) | 4 00–4 20 | — | 5 00 (12 looms) | — | — |
| Dressers | — | 9 00–11 00 | 4 80 | 5 50–6 00 | 8 50–9 50 |
| Winders | 3 50 | — | — | — | 4 20 |
| Dyers | 3 80–4 30 | 3 80 | 3 30–4 80 | 3 60–3 90 | — |
| Bleachers | — | — | — | — | — |
| Finishers | 3 80 | 3 80–4 00 | — | 3 60–4 30 | — |
| Printers | 7 40 | — | 5 80 (roller) 7 20 (hand) | — | — |

[1] Number of Looms

The figures do not differ greatly from those of the Board of Trade enquiry into "Wages and Cost of Living" in French towns, 1909, especially as that investigation included the chief cotton towns, Rouen for Normandy, Lille, Roubaix, and St Quentin for the Nord, Belfort for the Est, and Roanne for the Rhône-Loire The rates have been drawn up from the report and checked by statements of employers, workmen's syndicats and by other investigators

Certain observations may be made upon the table (*a*) In the Est and Normandy the lower rates are more typical of the country districts, although there had been a levelling up since

1900, there is also ground for the view that the Nord has the highest rates for spinning, that the Est has the lowest wages rates and taking into account its technical efficiency the lowest labour cost per unit of output of the French districts This matter may be approached from another point of view, by considering the variation in money wages for the last 30 years it is found that in Normandy and the Nord the advance in rates is not striking, amounting at most to 5 or 10%, while in the Est the increase amounts to 15 to 20%, and on the evidence of the Syndicat de l Est, factories can be found in the Vosges where the increase for many categories of work-people is 100% The general explanation of this position is that the Nord and Normandy were already established and developed districts in 1870, as was also Alsace, but the Est was in most ways a new industry the substitute for Alsace It grew up in a relatively undeveloped district with low wages ruled by agricultural occupation and domestic weaving, whereas the Nord had to compete both with the other textiles and with the attractive powers of mining, engineering and transport work, at least for its male labour Even Normandy had felt, after 1900, the pressure of the alternative occupations open to labour, this showed itself, according to the Norman industrials in emigration to the North and in the plantation of new industries in the locality consequent upon the rise of Rouen to the position of first French port

The following tables give evidence of the drift of wages rates in Normandy In 1904 the Masters Association of Spinners and Manufacturers presented to the Parliamentary Commission on Textiles Industries the results of an inquiry in 1903

TABLE I

AVERAGE EARNINGS IN 41 SPINNING MILLS EMPLOYING 7 760 WORKPEOPLE

| Occupations | 1882 12 hrs s d | 1892 12 hrs s d | 1896 12 hrs s d | 1900 11 hrs s d | 1903 10½ hrs s d |
|---|---|---|---|---|---|
| Scutchers | 2 4 | 2 5 | 2 5 | 2 6 | 2 7 |
| Carders | 2 5 | 2 5 | 2 5 | 2 6 | 2 6 |
| Drawing Frame Tenters (w) | 1 9 | 1 11 | 2 0 | 2 0 | 2 2 |
| Roving Frame Tenters (w) | 2 1 | 2 4 | 2 4 | 2 4 | 2 4 |
| Roving Frame Tenters Helpers (women) | 1 2 | 1 4 | 1 5 | 1 6 | 1 6 |
| Minders | 3 7 | 3 10 | 3 10 | 3 10 | 3 10 |
| Big Piecers | 2 1 | 2 4 | 2 4 | 2 4 | 2 4 |
| Little Piecers | 1 6 | 1 9 | 1 9 | 1 9 | 1 9 |
| Ring spinners (women) | 1 10 | 2 4 | 2 5 | 2 5 | 2 5 |
| Ring spinners Helpers (w) | 1 1 | 1 3 | 1 5 | 1 6 | 1 6 |
| Winders (women) | 1 8 | 1 9 | 1 9 | 1 10 | 1 10 |
| Labourers | 2 5 | 2 5 | 2 4 | 2 5 | 2 6 |

TABLE II

AVERAGE EARNINGS 35 WEAVING SHEDS EMPLOYING 12 530 WORK PEOPLE ON 14 619 LOOMS

24 per cent men 5 per cent boys 13–18 women 55 per cent girls 12–18 18 6 per cent

| Occupations | 1882<br>14 mills<br>1[illegible] hrs<br>s d | 1892<br>22 mills<br>1[illegible] hrs<br>s d | 1900<br>27 mills<br>11 hrs<br>s d | 1903<br>35 mills<br>10½ hrs<br>s d |
|---|---|---|---|---|
| Winders (women) | 1 10 | 1 9 | 1 11 | 1 11 |
| Warpers (women) | 2 7 | 2 9 | 2 11 | 2 11 |
| Sizers | 4 4 | 4 3 | 4 3 | 4 4 |
| Drawers (women) | 2 3 | 2 5 | 2 6 | 2 7 |
| Weavers (2 looms) | 2 5 | 2 5 | 2 6 | 2 7 |
| Beamers | 3 5 | 3 8 | 3 9 | 3 9 |
| Labourers | 2 2 | 2 4 | 2 5 | 2 5 |

(*b*) It is convenient to quote alongside the French rates the Lancashire figures for the same years, but certain reserves must be kept in mind, from the workman's standpoint, a knowledge is required of all the other elements in real wages, the cost of living, the hours of labour, the steadiness of employment, the services provided by the employer below cost or gratuitously, and the numbers receiving each rate of wages in the two countries, even with these, there are, in international comparisons, certain non-measurable elements in tastes, temperaments, habits, methods of living, and atmosphere, which render such parallels of very limited value

Certain aspects of this issue will be the subject of comment but it may be said provisionally that the real difference in favour of Lancashire is, so far as measurable, greater than the money difference The test of value to the employer is labour cost per unit of output and certain difficulties prevent any but tentative conclusions on that matter, it is difficult to get percentage labour costs for specified products and there is no uniformity in the methods of computation, the comparison of piece rates might be made but in French districts they vary considerable

Some reference has already been made to this problem in the section discussing the proportions of labour and fixed capital in the industry (Ch III), employers are of opinion that labour cost is lowest in the Est, and it seems very doubtful if Lancashire has any advantage over the Est in this respect The "Union Textile" furnished a statement to the Inquiry of

1904 upon the earnings per loom of a two-loom weaver in France and a four-loom weaver in England, with a view to showing that the French employer paid higher rates per loom, but the figures were wholly hypothetical and designed to urge the French weavers to mind four looms

Evidence was given by Sir William Holdworth to the Tariff Commission 1904, of certain costs in cotton mills in England and France

| | ENGLAND | FRANCE |
|---|---|---|
| Wages | 70% | 64% |
| Charges (Insurance Rates) | 4% | 7½% |
| Working Expenses | 26% | 28% |

(Excludes interest and depreciation 40% higher in France )

"The wage bill is, as a total, he states 'very similar to that of our English mills" Another firm owning establishments in England and France stated that between 1892 and 1900, it had been worth while having a factory in France, but after the reduction of hours it was a matter of indifference The view that restriction of hours has weakened France s position in production is widely held

In statements on wages, the cotton industry is often characterized as a family industry in this sense, "that the head of the family is not the only wage-earner" The Textile Union asserted that an exact notion of the condition of the workers could only be obtained by establishing the family wage, the point is pushed further by the Syndicat de l'Est, which suggested that the cotton trade held out special advantages by providing work for more than one member of the family The Board of Trade Investigators found in taking family budgets in Roanne that 97 5% of the wives contributed to the family income, in Rouen between 50 and 60%, and it is safe to assume that in the country districts of Normandy and the Vosges, the earnings of the wife and children are of importance A number of instances of family incomes have been collected by the syndicats in these districts, and vary between 2 480 and 4 618 francs for the family of three to five wage earners In some villages work is guaranteed to the members of a family if the head works in the establishment, or to put the matter in the reverse position, a man if he sends any of his family to work, is expected to get them employment in his particular factory, or there may be trouble

The conception of a family wage unit is not, however, free from ambiguity, it depends on what part of the family is included and on the period of life taken the workman s hardest period would be between marriage and the coming to wage-earning capacity of his children The idea is far more indefinite than individual standards of living In country districts the cotton industry may have an advantage in providing a mixed demand for labour of men, women, and children, and it follows naturally on the lines of the domestic system, but towns with mixed industries may provide a better choice of occupation suited to capacity, as in Belfort where engineering employs men, and the textiles women

HOURS OF LABOUR

An element of importance in determining real wages is the duration of labour and in this sphere there have been notable changes since 1892

| Before 1892 | 1892 | 1900 | 1902 | 1904 | 1919 |
|---|---|---|---|---|---|
| 12 hours and additions (cleaning machines) | 11 hours for women and protected young people By relay system 12 hours | 11 hours (No relay system) Young people (13 up to 18) and women | 10½ hrs | 10<br>(60) | 8<br>(48 hrs week ) |

The table shows the broad outlines of development

The law of 1892 gave women and the protected classes the 11-hour's day, the six-days' week, and the prohibition of night work, but the relay system worked by means of a moving team still made the day 12 hours for men The law of 1900 lessened the hours to ten per day, 60 per week, by two stages reached in 1902 and 1904 , it prohibited relays which rendered valueless the check of factory inspection , the protected categories were young people of 12 to 16 years, 16 to 18, women over 18, and adult men if they were occupied in the same premises as other protected classes Night work, 9 p m to 5 a m , is only permitted to men over 18 years , the holidays guaranteed by law were 52 Sundays and eight fête days for the protected categories and the one day per week "le Repos Hebdomadaire" (1906) for men , women with child were protected against dismissal for eight weeks The Ministry of Labour

enforces these regulations by means of divisional and departmental inspectors; it has been stated that while the inspectors perform their work energetically, they are too few in number, so that in the remoter districts their visits are too infrequent to secure the exact execution of the code.

Some of the critical problems connected with the regulation of hours of labour have been very prominent in public discussion in the cotton industry. Neither employers nor employed were satisfied with the act of 1900: on the side of the operatives the demand was for the eight-hours day and the "Semaine Anglaise" which they have been given in 1919; Roanne district had stood in a special position of isolation since it had enjoyed Saturday afternoon release for many years and had lost it partially in 1904 through the influence of the ten-hours law, the employers compelling the extra half day work in the busy winter seasons.

On the employers' side, especially as regards weaving, there had been a sustained attempt to secure amendment of the law. Their case was based partly upon the seasonal fluctuations in the manufacturing industry and partly on the effects of the rigid regulation of 1904. They held that while they were able to speed up production so that the transition could be made from 12 hours to 11 hours in 1900, the same effect could not be produced in 1902 on the second reduction, nor in 1904 on the third reduction. Such statements are difficult to test; there had been no reduction in wages after 1904, but on the other hand there had been little or no rise and many strikes had taken place on the adjustment of rates. On the technical side, rapid changes in organization often defeat their own ends by antagonizing labour, and a British firm owning a spinning mill in Lille gave up after trial the attempt to use its Lancashire methods with French labour; there is also the serious difficulty of varied production, to which allusion has been made; in weaving it is a slow process to reach the four-loom standard, and the whole issue regarding the relation of work-people to increased output is raised.

But by 1912 the industry seemed to have re adjusted itself to the 60 hours, and criticism was centred more in the distribution of working time. The plea of the manufacturers was that weaving had now become a seasonal industry, that the annual distribution of their work was irregular; in the Nord and Roanne especially, novelties and specialities displaced staple goods; the government was therefore asked to recognise

the change in the character of the trade and substitute greater elasticity in the annual distribution of hours for the rigid system of 1900

In the Rhône-Loire, the greater vogue of novelties caused the manufacturer only to work for orders, these were given at the end of the summer, completed in winter, and delivered in spring and the division tended therefore to be between slack and busy seasons The Est and Normandy were also becoming subject to greater seasonal fluctuation, the summer months being slack, the employer, according to this view, had previously borne the risk by accumulating to stock, plain or "classical" goods, but two factors had rendered that policy dangerous, first, the extreme variations in the cost of the raw material and, second, the importance of fashion production which would not stand psychical wear and tear, the extent of the contraction was variously reckoned for different localities at from 30 to 50%, and the relation between stocks and orders in the books at different times of the year was submitted by the Syndicat de l'Est as evidence of the difficulty of rigid regulation when exceptional pressure of orders was felt

A test of this variation would have been the unemployment rate where the incidence fell upon a definite portion of the labour supply, but that is so neither in spinning nor weaving on account of the short-time method and the temporary reduction in the number of looms per weaver The unemployed percentage of the textile trades is often high, in 1911 for example running between five and seven per cent, but so far as the returns can be analysed the percentage is very low in the cotton regions, there is also the correlation with agricultural pursuits to bear in mind

The proposal of the cotton manufacturers was that a certain number of hours should be permitted as overtime during the busy period to make up for time lost in the dead season Certain related textiles already benefited by supplementary hours, those engaged in the bleaching and dyeing of woollen, cotton and silk thread destined for novelty weaving, fine hosiery and so on, were permitted to work 12 hours on not more than 60 days in a year if authorized by the Divisional Inspector of Factories The subsidiary proposals of the Textile Union were that weekly hours should be fixed by statute, and the daily distribution by regulations to suit localities, and that extra time to clean machines should be allowed

The prospect was not, however, favourable for these proposals and in 1919 the eight-hours law was passed but the question of greater elasticity of regulation is still one of importance for seasonal production, it is difficult to see how the considerable increase which has taken place in the real cost of production is to be reduced unless by some radical change in the proportion of capital to labour such as is embodied in the shift system, but double teams of workers are not easily available in Normandy or in the Est

## TRADE UNIONISM

The attitude of the work-people to the problems of the industry in which they earn their living may now be outlined The trade unions, or "Syndicats Ouvriers," have no significant influence except in the Nord, there are no syndicats specialized to the cotton trade, much less to particular sections of its workers on the Lancashire system The loosely organized textile unions numbered, however, 365 in 1910, with a total membership of 79,650, representing 13⅓% of the total employed, of these practically the whole were "red unions," that is, associations connected at some period with the socialist movement, although they may recognise no connection with the political socialist party at the present day As has often been noted, French political development preceded economic growth and the syndicats sprang from the political side, whereas the British unions were organized before the political labour movement A small number of syndicats are known as "independent" or "yellow", they are scorned by the "reds" as "les Jaunes," the employers' tools, because they combat certain ideas of the labour movement such as the class war and the general strike, but their position is not merely negative and requires notice The central organization is the "National Textile Workers' Federation" with its headquarters at Lille, the official organ of which is the *Ouvrier Textile* The local unions are found in the towns and districts grouped around the mills and sheds, the syndicats in Roubaix and Lille district are recognized as the strongest groups claiming 20,000 or more adherents, and the Nord is said to account for at least 40,000 of the total membership of the Federation There are many scattered centres of activity in the Vosges, Normandy, and the Rhône-Loire, but they lack the robustness and continuity of the northern groups and are weak in numbers It is difficult at any time to speak of the actual

membership of a syndicat since it fluctuates and changes in its personnel according to the number of strikes and threats of strikes The towns show better results than the country districts in proportion, but the Rouen society had a scanty membership and dragged out an exiguous existence, it is apparent from their statements that the textile workers' leaders regard both the "Vosges" and the "Seine-Inférieure" as black spots, Victor Renard speaks of the Vosgians as the "pariahs" of the textile trades

Some of the reasons for the obvious weakness of trade unionism are found in the nature of the industry itself (1) its scattered village centres with a somewhat isolated outlook, cut off from the main current of working-class life, (2) the dependence of whole families upon individual employers for work, house, medical care, and so on, raising serious difficulties for the strike method (3) the great variability in conditions of different mills and sheds made it difficult to find common ground upon which to base claims which appeal to all and the divergencies in piece-rates for the same work between factories in the same locality and even under the same employer, make any settlement sectional It is in part upon this ground that the employers have refused to recognise the textile unions, the other causes being the smallness and unrepresentative character of the membership and the lack of any guarantee that an agreement will be carried out

The difference in working conditions, maintained by the employers themselves, is thus made an argument against all forms of collective bargain, the basis of trade union action The only road left being individual approach to the employer by the work-people of a single factory and a direct settlement in conference A curious light was thrown upon this matter during the inquiry of 1904 when a note, which had been sent to all employers by their union, was read stating that "it would be better for the unions not to reply" to any questions regarding the regulation of wages, "but to leave the task to their adherents so that there may be no recognition of the substitution of collective conventions for individual contracts" Divide and rule is therefore a policy, since although the employers' syndicats, as already described, undertake many functions calling for collective regulation, they carefully refrain from publicly recognizing uniform lists or minimum wages

"Our intention," said one employer, "in the case of a labour difficulty, is to deliberate upon the matter and to make

known to our workers what we shall have decided, we are persuaded that they will be satisfied" "There is only one way of coming to an understanding," said another, "it is to speak with those with whom we work" 'Given the variety of cloths and counts produced, as well as the diversity of machines in use, the workers of each factory are alone qualified to appreciate the value of labour conditions which are made for them and to regulate the details pertaining to each kind of manufacture'

It is only when some general difficulty springs up, such as the application of the ten hours day in 1904 that a national strike or widespread regional strike can take place What the French employers call "petites affaires' are however, so numerous that a scheme of insurance against such outbreaks has been considered the employer concerned being indemnified for his loss up to a point if after investigation his fellow-employers consider the strike or lock-out caused by no unreasonable action on his part

(4) An industry where joint stock companies are the exception and private companies the rule tells against trade union development, the private employer may have personal relations with the work-people, and the partriarchal system with its accompaniment of social services is not fruitful ground for the syndicat, there is too much of the personal tone of the family

A far-reaching consequence is the absence of information regarding the financial results of the industry, the joint stock company balance sheet may be difficult to fathom, but it gives some rough estimate of the range of profits in the industry whereas, as Jaurès observed, the regime of obscurity, which covers the working of the textiles, gives rise among the work-people to the most fantastic ideas regarding profits So far as observation can lead, it does not seem that the average success of such joint stock companies as exist in the cotton industry is above the Lancashire average, the statements of those firms which own establishments in England and in France point only to special periods, such as 1892, as times of exceptional profits, but the examination of certain Lille spinners by Jaurès brought the admission that the normal return for capital and management was expected

(5) It is a mistake, however, to estimate the influence of the textile unions by the smallness of their numbers or by comparison with the English organizations they can only be seen in proper perspective in their relation to the French labour movement, some of the general characteristics of which they exhibit

The characteristic feature of French syndical structure is that each local 'union' stands in a double relation to the labour movement, the textile "syndicats" are federated and affiliated into the industrial union, "The National Textile Workers Union but each syndicat is also affiliated locally to the "Bourse du Travail," and these organizations are again federated into the "Féderation des Bourses The final co-ordinating movement the General Confederation of Labour (the C G T ), brings the national trade unions and the federation of the "Bourses" into one organization

The 'Bourse du Travail' unites under its common rules all the unions in the same locality Neither in Britain in trades councils nor in Germany has local action been so strongly concentrated, and such a grouping secures the predominance of general class interests over strictly professional interests, Besso has pointed out that in Italy development of the textile unions has followed similar lines The "Bourse du Travail" may receive subventions to carry out certain services (1) labour exchange work, (2) payment of travelling money, "viaticum", (3) provision of libraries, (4) unemployed and other benefits, (5) professional courses of instruction, (6) publications, but there has been much friction with the municipalities which desired in return for subsidies to have some form of control of expenditure which interfered with the free action of the syndicats

With this typical structure are closely associated two salient characteristics (1) the poverty of the trade unions, and (2) their militancy and belief in direct action, there is undoubtedly a causal connection between the two The funds are collected by dues which were not in the case of the textiles above 6d per month, although efforts were being made to raise the fee to one franc at least per month, the greater part of the money was spent in strike pay, usually given at the rate of two francs per day There was very little mutual insurance, and that little was confined mainly to the northern towns where sick benefit was organized, there was some

slight attempt to work an employment exchange by the union while "viaticum" (travelling benefit) might be paid, there was no scheme of unemployment insurance

The whole activities of the professional textile groups are therefore concentrated upon wages questions their programme included demands for higher wages uniform lists, the English working week, the recognition by employers of collective bargaining and of the trade unions the minimum wage, the creation of "mixed commissions of employers and employed to settle wages rates the non intervention of the army in strikes The whole of these ideas are in line with the policy and achievement of the most conservative of British textile unions, it is in the back-ground of ideas rather than in concrete proposals that the French unions show their distinctive features, their theory is not state-socialism and democracy but rather a somewhat vague state where the "Bourse du Travail" will be the central organ of municipal government, this change requiring the use of the "general strike" and the work of the "conscious minority" The textile unions lean, however, to the reformist section and have far more in common with the political socialist party than many of the leading groups in the C G T

This attitude is seen also in the view taken of conciliation and arbitration, which are accepted as desirable methods of adjusting differences and discussing labour matters The leaders of the textile unions were prepared to agree not merely to arbitration on the interpretation of actual agreements, but also to arbitration either of a voluntary or obligatory kind in making new agreements, a position accepted neither by the leading "syndicats" who look with little favour on this association with the working of the present economic system and regard it as an infringement of the fundamental doctrine of the class war[1] nor by the employers who have stated that they regard the arbitration method when employed to formulate new agreements as an infringement of the executive control of business which ought to be resisted

Legal provision for voluntary arbitration and conciliation had been made in the law of 1892, and the law of July, 1908, instituted Advisory Labour Councils wherever there was a demand for such a body, to be composed half of employers and half of employed, and to act as representatives of the interests committed to them and to advise the Government,

[1] See C G T Conference and Collective bargain

the two sections might sit separately, but on certain questions there is to be joint deliberation (1) in giving advice upon labour conflicts, (2) in verifying the current and normal rate of wages and the ordinary duration of labour The old-established "Conseils de Prud'hommes" (1806) which continued under the Act of 1907 to deal with difficulties between employers and workmen or between workmen arising out of the labour contract, comprised both a board of conciliation and a judicial committee, giving an easy and cheap method of settlement within its scope In the textile group the workmen have pointed out (1) that workmen do not retain their posts if they carry any matter to the Prud'hommes (2) that the workmen delegates are marked out by the employers for special treatment

Up to 1900 strikes had not been very numerous in the cotton industry, but since 1904 the number had been growing, as the textiles are grouped together in the returns, it is not possible to give figures for one section alone, but in 1909 there were 198 strikes affecting 31,280 work-people, and the Labour Ministry state that in 12½% of the strikes the claims were granted, in 65% there was compromise, and in 22½% no change In reviewing the causes for which the strikes are stated to have taken place, there is a group of claims which are included in practically every outbreak (1) No dismissals for taking part in the strike, (2) recognition of the work-people's syndicat and the joint signature of piece-rate lists, (3) suppression of arbitrary fines and often of bonus systems, (4) increases in wages

In view of what has been mentioned regarding the poverty of French trade unions, it would be supposed that many of the conflicts are of short duration and that the "petites affaires" resemble rather spasmodic stoppages than strikes pursued on a deliberate policy after serious consideration While this point has some measure of truth, the reports of the Textile Federation show a large number of long-sustained conflicts, lasting from six weeks to six months The sectional character of the organization must be borne in mind and in general the French unions are recognised as fighting units, led with less deliberation perhaps than British organizations, but unhampered by thoughts of losing large accumulated funds, it often happens that, when a crisis occurs, the syndicat can count on the support of a decisive proportion of the work-people although its nominal membership may seem insignifi-

cant, but the two French strike methods of "Soupes Communistes" and the "exodus of children" to areas outside the conflict are little practised in the cotton trade

The attitude of the syndicats towards new methods of production is two fold, there is (1) the official view that new ways of increasing output should not be opposed but every opportunity should be taken to secure a share of this advance in increased wages, this is the view agreed to at the International Congress of Textile Workers, (2) the general sentiment of the work-people against change and veiled resistance to alterations in the prevalent technical methods, especially where new machines or more machines are being introduced This has been seen very clearly since 1904 in the cotton trade it is based upon certain opinions which may be open to serious criticism but are none the less influential (1) a deep-rooted distrust of the employer and the fear that the opportunity may be used to prejudice the present standard of living, and (2) certain economic prejudices which, while true of short periods of time, are invalid in considering the growth of industry a chief example is the idea of a fixed amount of work, so that if anyone does too much he is defrauding his fellow of his living, it is not deliberate restriction of output as seen in the "sabotage" plans, but the simple idea of spreading the work round There is no reasoned study of the industry by the work-people, nor have the officials that expert knowledge seen in many trade union agents in Lancashire, since the official may have been trained either in the spinning or weaving branch of any of the four chief textiles This appears to be a considerable disadvantage as the organizers have little chance of gaining a grip of the position and politics of the industry and are therefore inclined to fall back upon vague terms of propaganda

It remains to make some reference to the independent syndicats and to the attitude of the employers to trade unions Both in the Nord and the Rhône-Loire there are "yellow" unions, but the number of their adherents is insignificant The general ideas lying behind the independents are (1) continuous demands for increments of improvement in the condition of the working class, (2) the accession of labour to capital and property by profit-sharing and other means, (3) opposition to all strikes which are not strictly professional, (4) to keep in contact and to solidarise capital, labour, and directive intelligence (5) to resist municipal and state collectivism, to stimulate private initiative and freedom of association

The "yellows" are therefore supporters of the present economic system and seek their advance through it, in this sense they are allies of the employers, but they are not necessarily in opposition to collective bargains, nor need they be blacklegs in the employers' pay, the importance of this matter in the cotton industry lies in the position of the country districts, especially the Est, the work-people in that region are accustomed to the atmosphere of the "paysan" not the proletariat, and one cannot help but observe that they are potentially "yellows" rather than "reds"

The attitude of the employers in the cotton industry towards the work-people's syndicats is one of non-recognition, and the textile union has confined itself to resolutions regarding the liberty of coalition and acts of intimidation and violence against persons and property, which latter abuses it desires to see repressed On the broader question of giving the syndicats the power to possess and to become corporations as proposed by Millerand, the employers were prepared to agree provided there were guarantees that responsibilities would be made effective, the lack of funds on the part of French trade unions has always been considered a difficulty by the industrials, as there is no opportunity to conduct actions to strike at trade union funds

## CHAPTER VII

### SCHEMES OF SOCIAL FORESIGHT, SOCIAL LEGISLATION, AND THE STANDARD OF LIVING

VOLUNTARY efforts on the part of employers and work-people to improve, within the limits of the present industrial system, the conditions surrounding their employment have a somewhat notable tradition in the cotton industry in a large proportion of the mills, one or more of a great variety of schemes are to be found in operation dating in the case of old-established firms back to 1870 and in a few cases to the first half of the XIX century

The scope and extent of the measures vary greatly according to the size and strength of the firm, the individuality and initiative of both employers and work-people, the locality whether urban or rural, but they may be included under (1) schemes into which the insurance element entered and where an attempt was being made to cover definite risks the chief being accident old age, infirmity sickness, death and unemployment, (2) schemes of general utility, such as mutual aid societies, savings clubs, provision of housing, maternity and creches activities, co-operative agencies, installations of baths and refectories (3) recreative work taking the form of musical societies, educational services and clubs The development of these activities has been marked in each of the cotton regions among the leading firms, the Est inherits the Alsatian tradition and the way in which the mills are scattered in rural areas makes the factory an easy centre for the development of these institutions, much the same is true of Normandy, and in each district there are firms with considerable reputations as model employers, in the Nord there is less opportunity for extensive activity of this kind, since the large city groups can organise their own activities, although here too the method of grants in aid by employers has been used

Before describing the features of some of the societies, certain general observations may be made to show the position

(1) Many of the schemes attached to individual firms are being supplanted by the provision through municipalities, the central government, and public societies of the services This is naturally so with certain social functions where the employer is at most a pioneer of wider measures

(2) There are blended in the schemes many of the ideas of the English friendly societies, and also a certain patriarchal theory of employment which recognizes duties to employees beyond the payment of wages, while this is specially notable in Alsace, it is widespread, Engel-Dollfus is quoted in the words, "We owe our work-people more than their wages," and it is not surprising to find on the office table of a leading employer in the Vosges a book entitled, "The moral obligations and duties of employers towards their work-people" It is, of course, true that this seems to lead us back to the days of paternalism and the atmosphere is hardly favourable to industrial democracy

(3) It seems desirable to separate these schemes in thought from the modern "welfare work," which has been given a semi-technical meaning, "welfare work" is now best understood as the human side of what Americans call scientific management, it deals with conditions of work in the factories, with fatigue, with psychological aspects of work, selection of employees, and so on, it applies, at its best, student methods of investigation to works problems, at its worst it consists in hustling work-people to increase output This is neither the spirit nor outlook of the French schemes, and little attention has been paid to these ideas in the cotton trade

(4) Measures of social foresight are often judged by the motives which are supposed to lead employers to assist in initiating the schemes, thus the trade union attitude has been hostile since it is said that the loyalty of workers to their class is weakened, they are tied by special benefits to particular firms, they fear to strike when they rent their employers' houses, and in reality these services become one method of keeping down wages, and thus indirectly it pays a firm to provide such activities

Such criticism has undoubtedly some foundation but it seems based upon a somewhat narrow analysis of motives and overlooks the circumstances in which the schemes arose Strong trade unions, friendly societies, and public authorities may organise such services, but they had not done so and it was left to the employers to stimulate effort, there is little evidence that the typical American argument that good treatment of work-people pays, had much weight with French industrials, as in so many other cases different motives influenced action, the desire to render useful services, to gain approbation, to keep a loyal body of labour, to preserve a spirit favourable to steady work

### SCHEMES OF SOCIAL FORESIGHT

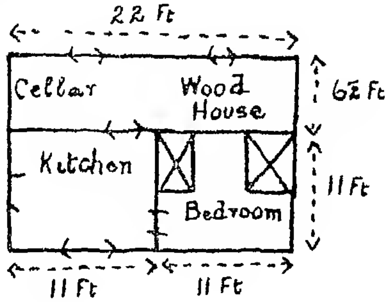
Certain concrete illustrations may be taken an old established Norman firm had been built up in a commune with over 6 000 of a population it consisted of a cotton spinning factory with over 150,000 spindles together with another 25 000 in a neighbouring commune, and also linen, and hemp and jute spinning the number of work people totalled over 2 000, about 1 000 being in the cotton mill There were no less than 18 separate activities designed to improve the situation of the personnel First came a housing scheme the "cités ouvrières included accommodation from two rooms and a kitchen with conveniences as a minimum up to houses with kitchen public room three bedrooms and other accommodation, for foremen and other employers Although built in groups each house has its own door and garden, the interior services of wash house, w c, etc are personal to each tenant, but water may have to be fetched from fountains as all houses have not taps

A day nursery received children up to six years while their mothers were at work and the firm had been responsible for the upkeep of both a girls' (1864) and a boys' school (1889), although the latter had since been handed over to the commune, a special course in design was given to children with a technical bent, who looked forward to textile work, and from 120 to 150 girls were either supported in a girls' orphanage or were boarded out in families subject to supervision A foresight and pension fund is maintained solely for those of the work-people who have given long and faithful services, there is also an "assistance" fund for any in special need The mutual aid society (1873) provided (1) medical services, (2) drugs, (3) indemnity for time lost by sickness, (4) maternity benefits, (5) funeral payments, it was financed by the fines in the workshops, the contributions of the owners of the firm, and the monthly contributions of participants graded by age, and had a membership of over 2,000, the accumulated funds being invested at 4% with the firm

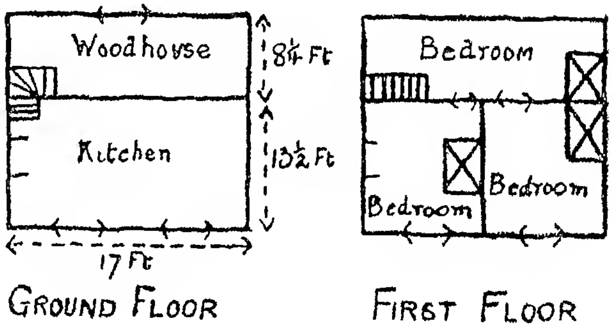
A savings bank (1894), known as the "Association Fraternelle," was worked in connection with the state scheme, and a special charity organization society dealt with mothers of families and women workers who required aid the administration of the latter was carried out by a council consisting of subscribers and the wives of managers and others, cases

The sketches show the accommodation and rents of the main types

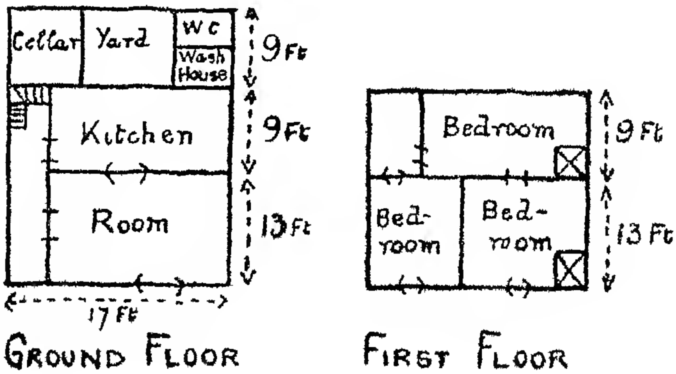
A Type
(Ground
Floor only
Small Plot
attached)
Rent
3 frs 50 per
fortnight




'B' Type
(Garden
attached)
Rent,
5 frs per
fortnight




C Type
(Garden
attached)
Rent
7 frs 25 per
fortnight



were visited and approved individually, special attention was directed to the provision of beds and bed linen, but most of the ordinary commodities of household importance, clothes, footwear, food were dealt with, the scheme was supported by private subscription The firm also provided at very cheap rates of ½d to 2d baths of various kinds, including facilities for swimming

In addition to these schemes of general utility there were five or six activities which belong to the recreation group First comes the club itself, which is the centre of the life of the societies and has ample accommodation for the various meetings and reunions, including a large hall capable of seating at least 1,500 persons, it provides a library and refectory A works band (1872) is kept up and has won many honours in competition, there are also a gymnastic society (1892), a choir and dramatic society a continuation school, open to those between 13 and 20 years of age, covers both study and organized games The cost of this union is defrayed partly by the subscriptions of members, which are 2½d per month for an ordinary workman, and 5d per month for foremen and higher officials, but the balance of expenditure is paid by employers, as so elaborate an undertaking is far from self-supporting The council of administration includes workmen

This instance has been described in some detail to show the extent to which these schemes of social foresight may be developed but it is not representative, and a little may be said in general of the extent and number of these institutions An estimate made some years ago in Normandy showed that 16 spinning firms out of 41 observed had one or more of these institutions, and these 16 employed two-thirds of those engaged, in weaving the proportion was 21 out of 34 sheds, in the Vosges the proportion was not less and in the Nord the larger firms undertook similar work Housing is provided by the large and well-established firms in rural areas, the majority of the employees may be tenants of the employer one establishment in the Vosges housed 500 out of its 750 work-people in 25 separate houses, each having ten families, the two rooms and kitchen being let at 6 50 francs per fortnight, there is commonly some attempt at offering accommodation above the average and the schemes are financed altogether by the firms, returns upon a commercial basis are not expected and the rents do not give a remunerative return as investments The rules of occupation are often strict, laying down standards

of cleanliness limiting freedom of use such as the taking of lodgers, imposing fines for certain acts and a scheme of inspection The workman is not likely to be able to forget that he is in the firm's house if all the rules are enforced

The group of friendly societies to cover medical services, medicaments sick pay, funeral expenses maternity benefit, is also wide-spread and is commonly financed by (1) the amount of fines, (2) contributions of members and (3) subsidies by the firm Long service pension schemes are also fairly common, the period required to qualify being 30 to 40 years continuous employment In the Nord and in the town districts generally the services may be organized by public bodies rather than by the employers alone Societies for the provision of cheap dwellings have been in existence in Lille since 1865, and under the law of 1906 on cheap housing, approved societies may receive subsidies from the state, the department or the commune, as well as gifts or legacies Certain taxes falling on house property were to be remitted for 12 years provided the houses fulfilled conditions regarding sanitation and rent, loans were also authorized on mortgage from the departments, municipalities, and poor law authorities if the dividends paid did not exceed 4% per annum The trade unions have, in Lille and Roubaix, attempted to develop the benefit side of the movement and have formed societies to grant insurance against sickness, to provide old age pensions, maternity benefits, as well as to give technical instruction, carry on an employment registry, and arrange for lectures and recreation

### SOCIAL LEGISLATION

It is not the purpose of this survey to give an outline of the French labour code, but a few references to social legislation serve to indicate how public action is influencing and is likely to affect these schemes for social betterment The older voluntary schemes, whereby workmen insured themselves against accidents with subventions from the employers, became unnecessary after the passing of the Workmen's Compensation Act of 1898, it embodied the idea of professional risk and made the employer liable for all accidents unless the worker was wilfully negligent, the criticisms of the Act relate to details, not to the principle The law of 1910 introduced a compulsory contributory scheme

by state agency the normal age of liquidation was 65, reduced in 1912 to 60 years, and under certain conditions, earlier participation could take place, in the case of the death of the insured, payments could be made to the widow and dependents This Act together with the law of 1905 guaranteeing assistance to all French people over 70 years of age will lead to the discontinuance of most long-service pensions schemes

Since 1910 it has not been legal for any employer to have connected with his works any shop for the sale of goods to his work-people and their families, so that the many rural "économats" have been translated into small co-operative stores on the Rochdale plan This act does not, however, interfere with sales by the employer at cost price of certain goods, if that is deemed useful, nor with housing schemes Some discussion on the allied question of distraint of wages has recently taken place, according to the law of 1895, not more than one-tenth of the wage may be secured to cover unpaid debts, in one or two exceptional cases a second tenth may become available It is said that this right extends the workman's credit in times of distress, but on the other hand it may allow an undue extension of credit, a dissociation of purchase and payment, and so lead to a rise in the price of goods The employers in some districts state that their book-keeping is unduly complicated, and a practical criticism of this method of extending the workman's credit is the expense necessary to enforce the claim, this, according to evidence, has often been greater than the total amount of the debt

With regard to sickness and death insurance, as well as pure saving, the "mutual aid" or friendly societies stand in the front rank, and "invalidity" insurance was by much the more important as death insurance had been reckoned by the French worker beyond his means until recent years, there are voluntary state schemes of insurance and a savings bank system, but no compulsory scheme of the character of the British Health Insurance Act of 1911

The remaining cases of schemes which are likely to be affected by public action are (1) maternity societies, and (2) unemployment insurance From 1895 and 1896, when the first two "Maternal Benefit Societies" were founded, there had been considerable expansion until in 1910 there were such societies in 150 French towns, including Lille, Roubaix, and Rouen, in 1907 the government agreed to give a subvention

of 400 000 francs to aid such work, and raised it to 500 000 francs in 1908 The contributions of participants and subscribers, together with this grant in aid allowed the payment (1) a weekly indemnity for at least four weeks, (2) a bonus or maternity gift (3) medical services and in some cases drugs at the time of child-birth The societies concentrate their attention upon infantile mortality, and the stronger groups tend to expand their task to cover all the chief factors in the health of the child provision of good milk and food, baths, nurses, baby-linen, and so on The membership fee for a working woman was usually 2½d per month Day nurseries are found in towns such as Rouen Lille, and Roubaix, financed by subscription, as distinct from those attached to particular factories

It has already been mentioned (Ch VI) that insurance against unemployment is practised in a limited way by the trade unions of the Nord, and that in the Est the practice of half-wages for periods of involuntary idleness is common, there have been municipal experiments in unemployment insurance in a number of French towns of which Roubaix and Roanne are examples, and here too the line of development has been the grant of help on certain conditions to existing agencies, mainly trade unions As Mr Schloss has pointed out however, the schemes are so limited in their scope and the numbers affected by the grants are so insignificant, about 1,300 in the textile trades in 1907, that it can hardly be said that insurance against unemployment had become a practical problem, although bills to set up such schemes had been discussed in the Chamber of Deputies The difficulties are the lack of information regarding the risk of unemployment, the absence of adequate checks on employment through the loose organization of the labour market, the short-time system in the textile industries and the special position of the rural factories Since 1905 the central government has also given grants in aid of unemployment benefit, but it was not yet evident what the future policy would be

## CO-OPERATIVE STORE MOVEMENT

" There are more co-operative stores in France than in any country in Europe," but Mr Fay adds, " less business per store member and smaller membership per store " The total number for certain areas is as follows —

NUMBER OF CO OPERATIVE STORES 1910

| | Number | Members | Turnover Francs |
|---|---|---|---|
| France | 2 636 | 745 000 | 244 000 000 |
| Nord Dept | 270 | 162 000 | 47 170 000 |
| Vosges Dept | 97 | 16 400 | 7 900 000 |
| Seine Inférieure Dept | 36 | 13 600 | 3 850 000 |
| Rhône Loire Dept | 135 | 50 000 | 13 000 00 |

It therefore appears that the "store" has little significance for the textile industries, except in the Nord, and is indeed very weak in Normandy and the Vosges The French movement generally lacks the consciousness of the British movement and is inclined to stop after opening cheap shops on the Rochdale system Federations exist but local autonomy is strong and the political cleavage, which has left its mark on trade union development, is seen also in the division between "red" stores and "independents" In the Nord, however, there are signs of a different outlook and an attempt has been made to use the "red" stores to support trade unionists on strike by the grant of extensive credit, members may also be entitled, as at Lille, to grants of bread and groceries for a limited number of weeks in the event of illness, and birth of children, as well as to medical attendance and other benefits

### THE STANDARD OF LIVING

The features in the standard of living of the cotton operatives, which can be most readily described, are (1) the type of dwelling, (2) the supply of food, (3) certain special characteristics The cotton workers are found mainly in two classes of houses (1) tenements let out in separate dwellings of two and three rooms each, and (2) in small houses and cottages of three and four rooms which may be separate and of the self-contained type, or which may be constructed for two or four tenants, the four-tenant houses being similar to those seen in some Scottish towns, two upstairs and two down, each with their own entrance The first class predominates in Rouen town and in Lille within the fortifications, the second class in Roubaix, Roanne, Belfort, and in the suburbs of Rouen, Sotteville, and Petit Queville, outside the walls of Lille, as well as in the rural districts In Rouen town the three or four-storey tenements are usual and both the accommodation and the sanitary conveniences are defective Water has to be laid on

to the ground floor and to other storeys within a stipulated time, but the drainage system is by cesspool The textile operatives are, however, mainly resident on the left bank of the Seine in the more modern houses There are examples also of the " cités ouvrieres " or courts entered by alleys, which were formerly thought a suitable plan for working-class housing, but are now looked upon as failures Lille has always had a somewhat unenviable reputation for the housing of its work-people, ' in spite of all that the municipal authorities had done during recent years, the typical dwelling of the poorer classes left much to be desired in accommodation, comfort, and hygienic surroundings,'[1] " it is only fair to remember, however, that existing evils were largely inherited "[1] The chief classes are the tenement and the ' cités " but the newer portions of the town and the outlying district show healthier conditions, water and conveniences are usually outside and are shared

Roubaix is probably more like a Lancashire cotton town than any other centre of textile production in France Separate cottages for each family are the rule, the town is not walled and has expanded freely into red-brick streets with the growth of population, but its sanitary arrangements are backward and there are a good many back-to-back houses The working-class quarters in Belfort and Roanne consist mainly of two-storey buildings, each house having four tenants, two up and two below, the accommodation being two or three rooms

## RENTS

The statement of predominant weekly rents given in the Board of Trade Report upon the cost of living in French towns (1909), may be taken as representative for the period 1910–12, but it must be kept in mind that (1) the French cotton operative is not paying for a house with sanitary conveniences of an up-to-date character, (2) local taxes are not included, (3) the figures are too high for rural areas in Normandy and the Est, (4) in rural areas and in suburban districts the house may be owned by the family

Rents are paid by the month, three months, or six months, and it is notable that Roanne and more especially Roubaix, a large town, show such low rent levels It may be of interest to show the relation between rents in these five towns and rents

[1] See Board of Trade Inquiry into Cost of Living etc Lille

PREDOMINANT RENTS IN COTTON TOWNS

| | Rooms | Town | District | Rent Index No where Paris Level = 100 |
|---|---|---|---|---|
| Rouen | 1 | 1/5–1/10 | — | 65 |
| | 2 | 2/9–3/5 | — | — |
| | 3 | 4/0–4/7 | 2/7–2/11 | — |
| | 4 | — | 3/1–3/6 | — |
| Belfort | 3 | 3/4–5/2 | — | 69 |
| Lille | 1 | 1/1–1/10 | — | 5[illegible] |
| | 2 | 1/10–2/11 | 1/6 | — |
| | 3 | 2/5–3/2 | — | — |
| | 4 | 3/8–4/7 | 1/10–3/4 | — |
| Roubaix | 4 | 2/3–2/11 | — | 38 |
| Roanne | 1 | 9–1/1 | — | 37 |
| | 2 | 1/5–2/2 | (51% of total) | — |
| | 3 | 2/2–2/9 | — | — |

at the same period in five of the Lancashire cotton towns, although international comparisons of this kind are of limited value Using the material of the cost of living inquiries, the figures would be the following —

| | | | |
|---|---|---|---|
| Rouen | 51 | Blackburn | 50 |
| Belfort | 57 | Bolton | 53 |
| Lille | 40 | Burnley | 53 |
| Roubaix | 29 | Oldham | 60 |
| Roanne | 29 | Preston | 48 |
| Mulhouse | 49 | | |
| Arith Mean | 42 5 | Mean | 52 8 |

Base, London = 100 (including local taxes )

This supports the view of observers that French rents were low, and that Frenchmen did not covet more accommodation with the extra cost of furnishing entailed , it is also due to a difference in sanitary convenience and to the smaller average size of the French family

THE WORKMAN'S BUDGET

The food supply of families is marked by considerable variety , the meals are commonly (1) the light diet or breakfast before work, which would include coffee, rolls or bread, but

sometimes cider or beer might be drunk, or soup taken, (2) the dinner taken at midday, which would consist of two courses and into which would enter soup, vegetables, some meat bread, wine, (3) the supper about 6 to 7 p m, with variations in these foods There may occasionally be the *apéritif* later at the café

The workman consumes white bread of good quality, but little flour is bought for household use, a feature is the relatively high expenditure on vegetables and fruit, including potatoes, this is reckoned to be 50% to 100% greater than the expenditure of a corresponding British family the consumption of sugar is small compared with British and German figures, coffee is the usual non-alcoholic drink, *vin ordinaire*, and in the Nord, beer, are the common beverages Beef is the chief kind of meat consumed, with veal second, and mutton third, there is, however, a great variety in this form of expenditure, as sausage, bacon, *charcuterie* (ready prepared meats), pork, horseflesh, and poultry, entered in significant proportions into the budgets As a whole the dietary is more varied than that of a British family with the same income, and according to the Cost of Living Inquiry the quantity consumed per head is greater for bread, meat and fish, eggs, butter and fats, vegetables and fruit

It appeared, however, that pre-war price levels were higher, in some cases considerably higher in France than Britain for all comparable goods except milk, home-grown vegetables, fruit, and butter, a statement of certain prices in the five cotton towns is appended, it includes the chief commodities

The matter may, however, be illustrated by the use of the index numbers of the Board of Trade Report

| | Paris | Rouen | Lille | Roubaix | Roanne | Belfort |
|---|---|---|---|---|---|---|
| Prices | 100 | 103 | 100 | 94 | 96 | 88 |
| Prices and Rents combined | 100 | 97 | 92 | 85 | 86 | 85 |

Base Paris Level = 100

Rouen and Lille are the towns where living costs most, but there is not sufficient material to compare real wages in

the different districts, the important rural side of the industry would be omitted, and the allowance for unemployment is not calculable, but observation of the wage rates[1] would suggest that real wages were highest in the Nord for spinning and in the Est for weaving

Any attempt at comparison of the prices of working-class budgets in France and England is rendered somewhat artificial because of differences in the way in which the expenditures are made up and in habits of life tastes, and outlook non-measurable elements According to the calculation of the inquiry, if a French working-class family had pursued its usual mode of life in England, its cost of living would have fallen in the ratio of 106 to 100 and if an English family had emigrated to France and kept to its usual standard it would have found living dearer in the ratio of 118 to 100 When net rent was allowed for, the ratios of cost were 104 to 100 for the French workman, a reduction of 4%, and 100 to 114 foi the British workman in France, an increase of 14% , but as Mr Steele has pointed out both John Smith of Oldham and M Jules of Rouen would find many things in changing places far more difficult to accommodate themselves to than changes in the cost of living Keeping in mind that comparisons in well-being are not feasible, it can be seen that in certain material factors in such well-being, money wages, cost of living, hours of labour, the French cotton operative did not compare favourably with his Lancashire confrère

Certain other elements in the standard of living may be noted Manufactured goods, including clothing, were distinctly dearer in France than in this country, but the cotton operatives compared favourably in appearance and dress with British standards , this is said to be due to traditions of careful mending and thriftiness, which have never been broken by waves of extreme cheapness and plenty A best suit or dress is kept for special occasions, and the imitation of fashions of the richer classes is not prominent In household furnishing, there is neither the desire nor the purchasing power to fill the house to overflowing with goods and chattels as is often the case in this country, but the old custom of accumulating good linen and handing it down still persists in rural districts The kitchen would normally contain the stove, box for wood or coal, some shelves and hooks, cupboard, crockery, coffee

[1] See Chapter VI

utensils table and chairs , the first three items being commonly fixtures to the house While coal is consumed in the Nord, wood is employed in the Est and Normandy, a little coal might be bought in the winter , paraffin oil is used for lighting, although gas is being increasingly employed and in Roanne gas stoves for rapid cooking were installed in some houses The contents of a living room would be a four-legged table, a few rush-bottomed chairs, cupboard, looking-glass, bed, with perhaps a stove in winter , in the bedroom, the large bed, an armchair, two chairs some kind of dressing-table and wardrobe a chest or two , a few prints on the walls, a few ornaments and lamp , if there is a cellar or outhouse, a store of fuel and a wine-barrel may be kept there

Of life outside the factory, simpleness is still a main characteristic , in the towns there is a growing complexity of interest, but in the villages, the peasant attitude is usual , a keen interest in the family, the care of a small garden, the collection of wood for fuel, and visits to the café Alcoholism had been much discussed by the textile manufacturers since 1904, and many temperance societies had been started to sell hygienic beverages, but intemperance, while it is said to spoil the production of Mondays and the day after fêtes, seems less than in Lancashire , spirit drinking has, however, a foothold in the towns of the Nord and in Rouen, and has been severely condemned by some of the textile trade union leaders Serious reading and educational effort have no appreciable part of the worker's interest and the newspaper is the usual medium of ideas As already remarked, French women contribute largely to the family income , they may do this the more readily as families are small It does not appear that the efficiency of household management is thereby impaired, and some districts such as St Quentin were known for the spotless " Flemish " cleanliness of the houses , the common practice of taking away the washing to some central or public washhouse assists this There has, of course, been criticism of the wage-earning woman in France in view of the falling population, but it is difficult to see how present standards of living could be preserved without her aid

## APPENDIX I TO CHAPTER VII

### Predominant Prices paid by the Working Classes for Certain Commodities in May 1907

(Board of Trade Inquiry 1909)

| | Lille | Rouen | Roubaix | Roanne | Belfort |
|---|---|---|---|---|---|
| Beef— | | | | | |
| Ribs per pound | 8¾d | 8¾d | 7¼d | 7d | 7¾d |
| Brisket | 5¼d | 3¼d | 5¼d | 6d –6¼d | 6¼d |
| Silverside | 8¾d | 8¾d | 6d –7d | 9½d | 7¾d |
| Shin with bone | 5¼d | 6d –7d | 4¼d –6d | 6d | 6d –6½d |
| Beef Steak | 1/0½–1/1 | — | 8¾d –9½d | 9½d | 9½d |
| Rump Steak | 1/0½–1/1 | 1/3¾d | 9½d –10½d | 9½d –10½d | 11¼d |
| Thick Flank | 1/1 | 8¾d –9½d | — | 9½d –10½d | 7 d |
| Mutton— | | | | | |
| Leg | 1/0½ | 11¾d –1/0½ | 9¼d –11¼d | 9½d –10½d | 11¼d |
| Shoulder | 8¾d –9½d | 9½d | 7¾d –9½d | 8¾d –9½d | 10½d |
| Breast | 7¾d –8¾d | 7d –7¾d | 7d | 7d –7¾d | 8¾d |
| Neck best end | 1/0½ | 1/1 | 9½d –11¼d | 9½d | 10½d |
| Scrag end | 7¾d –8¾d | 7d –8¾d | 6d –7d | 7d –7¾d | 8¾d |
| Chops | 1/0½ | 1/1 | 9¼d –11¼d | 9½d | 10½d |
| Veal— | | | | | |
| Hindquarter | 11¾d –1/0½ | 9½d –10½d | 9¼d –10½d | — | 9½d |
| Shoulder with bone | 10½d | 8¾d –9¼d | 8¾d | 8¾d | 9¼d |
| " Without | 1/1 | 1/0½ | 10d –11¼d | — | 1/0½ |
| Ribs | 11¼d | 9½d –10½d | 9¼d –10¼d | 8¾d | 8¾d –10½d |
| Chops | 11¼d –1/0½ | 9¼d –10¼d | 9½d –10½d | 8¾d | 10½d |
| Leg | 11¼d –1/1 | 9½d –10½d | 9½d –10½d | 8¾d –9½d | 10½d |
| Pork— | | | | | |
| Leg | 10½d 11¼d | 10½d 11¼d | 9½d –10½d | 8¾d –9¼d | 8¾d –9¼d |
| Foreloin | 10½d 11¼d | 9½d –11¼d | 9½d –10½d | 8¾d | 8¾d –9¼d |
| Belly | 8¾d 10½d | 8¾d | 8¾d | 8¾d –9½d | 7¾d –9¼d |
| Chops | 11d –1/0½ | 10½d | 9½d –10½d | 1/0½ | 9¼d |
| Other Commodities— | | | | | |
| Coffee per lb | 1/7¼ | 1/5½–1/9 | 1/5½–1/7½ | 2/0½ | 1/3½–1/9 |
| Sugar per lb | 3d | 2¾d –3d | 3d | 2¾d –3d | 3d |
| Eggs per 1/- | 12–13 | 12–13 | 15–16 | 13–14 | 10–12 |
| Cheese per lb | 10½d | 7d –1/0½ | 9½d | 8¾d –10½d | 7¾d –9½d |
| Butter per lb | 1/2 | 1/0¼–1/2 | 1/- | 11¼d –1/0½ | 1/0¼ |
| Margarine per lb | 10½d | — | — | — | — |
| Potatoes, 7 lbs | 6d | 4½d | 4¼d | 2½d –3d | 1½d |
| Flour Wheaten 7 lbs | 1/3¼ | 1/0¼–1/3¼ | 1/3½ | 1/3¼ | 1/6¼ |
| Bread White per 4 lbs | 5¾d | 6¼d | 5¾d | ½d –6¼d | 5¼d –5½d |
| Milk per qt | 2¼d | 2½d –3½d | 2¾d | 2¼d –2¾d | 2¼d |
| Coal, per cwt | 1/4½ | 1/11½–2/5¼ | 1/5 | 1/8½–1/9½ | 1/1–1/3¼ |
| Paraffin, per gal | 1/1 | 1/1 | 1/1 | 1/1 | — |
| Basis— Paris Level = 100; Food Prices— | 100 | 103 | 94 | 96 | 88 |

## APPENDIX II TO CHAPTER VII

### Variations in Retail Prices

While it would have been desirable to give some indication of the influence of the years of war upon the cost of living and upon wages it has not been possible to do more than record certain variations in retail prices published by the Statistical Service of the French Government

Thirteen principal necessities relating to light and food are weighted according to the annual consumption of a working family of four people

These weights are as follows —

| | | | |
|---|---|---|---|
| Bread | 700 kgs | Potatoes | 250 kgs |
| Meat | 200 , | Haricots | 30 |
| Lard | 20 | Sugar | 20 |
| Butter | 20 | Salad Oil | 10 |
| Eggs | 20 dozen | Petrol | 30 litres |
| Milk | 300 litres | Paraffin | 10 |
| Cheese | 20 kgs | | |

The information was supplied by towns with 10 000 inhabitants and over the index numbers are shown for all France and for groups of towns in the North East and Centre

| | Year | France | North | East | Centre |
|---|---|---|---|---|---|
| First quarter | 1911 | 1014 | 1059 | 1002 | 1015 |
| First quarter | 1913 | 1020 | 1043 | 989 | 1038 |
| Third quarter | 1914 | 1004 | 1089 | 988 | 988 |
| First quarter | 1915 | 1105 | 1160 | 1106 | 1090 |
| First quarter | 1916 | 1336 | 1415 | 1276 | 1396 |
| First quarter | 1917 | 1547 | 1641 | 1497 | 1579 |
| First quarter | 1918 | 2120 | 2181 | 2011 | 2160 |

It was also estimated that by the end of 1917 the wages of both skilled and unskilled workmen had risen approximately 60 to 70 per cent above the pre war level, in the case of unskilled women workers the percentage given was 120

# CHAPTER VIII

## SOME PROBLEMS OF THE INDUSTRY

THE questions which confront the industry directly at the present time are (1) the return of the Alsatian cotton group with its considerable equipment, (2) the position of the damaged areas of the north, and the difficulty in post-war production with regard to power, labour, equipment and foreign exchange, and (3) the extent of the home, colonial, and foreign markets in their influence upon the trade policy and technical development of the industry

The re-incorporation with France of the old departments of the Upper and Lower Rhine raises a serious problem for the home industry on account of the high stage of development of the cotton spinning weaving, and printing in that region

Some indication of the nature of this factor in the future of the industry may be gained by a sketch of the extent and magnitude of the Alsatian group It was reckoned by Dehn in 1909 that there were 1,640,000 spindles and 42 000 looms in the district, of which Mulhouse is the industrial and commercial centre, the estimates given for 1914 are 1,900,000 spindles, 46,000 looms, and no less than 160 printing machines, the figures for spindles are over-estimates for spinning spindles and seem to include doubling, placing the totals alongside of those for France, the proportion would be —

| | Spindles | Looms | Printing Machines |
|---|---|---|---|
| France 1914 | 7 560 000 | 140,000 (27 000 hand looms) | 130 |
| Alsace 1914 | 1 900 000 | 46 000 | 160 |
| Proportion | 23% increase | 33⅓% increase | 125% increase |

The International Federation gives the spindleage for 1919 as 9,400,000, making France rank second in spinning equipment in Europe after England, and equal to Germany

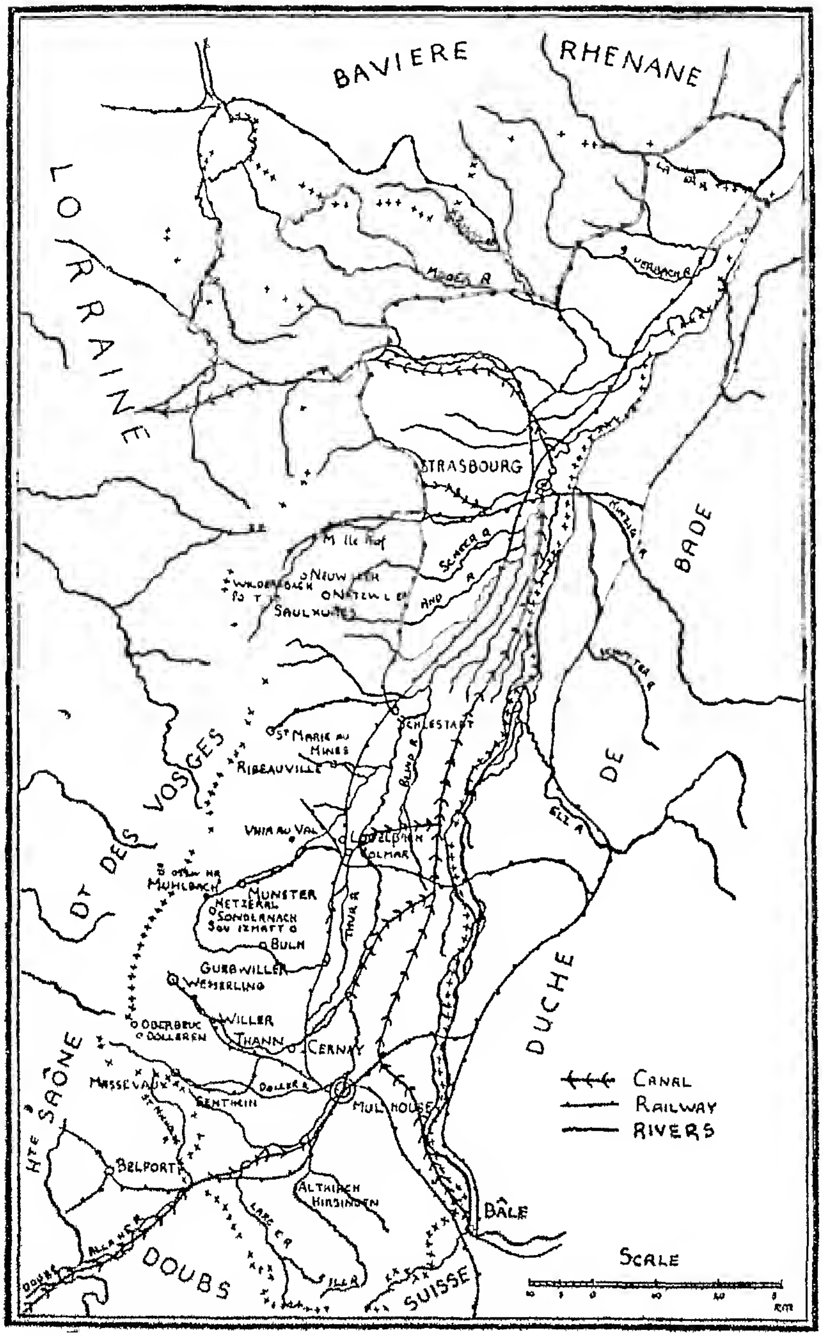
The change has a two-fold effect (1) the local industry suffers through losing its German market, at least after the transitional period, and (2) the equilibrium of the French markets will have to be readjusted to suit this increased equipment, and this is bound to raise tariff problems

### ALSACE

Alsace is one of the oldest cotton manufacturing centres in Europe, ranking with Flanders, the reasons for the localization of the industry in such a purely continental situation are similar to those advanced in the case of the Est group, there is the presence of pure water for finishing and bleaching, water-power in the hill streams and rivers, the presence of the other textiles with a labour supply accustomed to such work (woollen production being at the present time of very considerable importance), as well as the close proximity of the Swiss industry, in addition there is the historical reason that gild restrictions were never important, and political interference with the industry slight In spite of the disadvantage of distance from ports and cost of transport to markets, these factors have been sufficient to maintain a continuous development of the locality

Mulhouse, the economic capital of the trade, lies on the river Doller, 20 miles east of Belfort, and the mills and weaving sheds spread to the north and west in the eastern valleys of the Vosges, outside of Mulhouse itself, which has a population of over 95,000, and in which there are more than 500 000 spindles and 8 000 looms, as well as important printing works, the industry is rural in character The chief localities, proceeding from south to north, are (1) the upper reaches of the Doller, upon which stand Sendheim, Massevaux, and other weaving villages, (2) the valleys from Cernay and Thann to Wesserling and Guebwiller, where there is spinning, weaving and printing, (3) from Colmar up the Fecht valley to Munster, (4) Schlestadt to St Marie-aux-Mines with Ribeauville, (5) the upper Bruche valley from Mullerhof to Saulxures The region is scattered on the west of the Rhine almost to Strassburg, as may be observed from the accompanying map

In 1870, the Industrial Society of Mulhouse estimated that in the Upper and Lower Rhine there were 1,870,000 spindles and 31,000 looms, and, if the Vosges be added, 2,200,000 spindles and 50,000 looms, with 60,000 work-people, of the spindles, 350,000 were still mule-jennies, the introduction of the "self-acting" starting in 1850 and of the ring frame, 1875, onwards The growth of equipment is therefore not significant except in weaving, but it must be kept in mind that the Vosges weaving firms drew their yarn from this group until 1870, and in 1887 the spindleage had decreased to 1,375,000 There was


BAVIERE RHENANE
LORRAINE
STRASBOURG
BADE
SCHLESTADT
RIBEAUVILLE
COLMAR
MUNSTER
GUEBWILLER
WESSERLING
WILLER
THANN
CERNAY
MULHOUSE
BELFORT
ALTKIRCH
HIRSINGEN
BÂLE
DOUBS
SUISSE
HTE SAÔNE
DUCHE DE BADE
CANAL
RAILWAY
RIVERS
SCALE

a tradition of fine spinning in Alsace and in 1914 it still remained the district where higher counts were produced than in any of the German groups, the German tariff protected low counts far more in proportion and although some firms persisted, with numbers even as high as 200s, the main bulk of the spinning was medium and comparable to that of the Est, and the ring frame had ousted the mule from predominance In weaving the products are chiefly printers and every variety of fabric for dyeing and bleaching, but there is little weaving of coloured goods Calico printing is the industry in which Alsatians have achieved a wide reputation it is carried on in Mulhouse, Thann, and Wesserling, and it is likely that a movement for the re-introduction of the "Admission Temporaire" will find in the printing trade strong advocates

The number employed in 1907 was in spinning, 13,800, in weaving, 23,520, in printing, 4,700, and the motive power used may be summarized

| | Firms | H P | Firms | H P Steam | Firms | H P Hydraulic | Firms | Electric Kilowats |
|---|---|---|---|---|---|---|---|---|
| Spinning | 62 | 34720 | 56 | 28299 | 42 | 6109 | 14 | 1456 |
| Weaving | 118 | 21283 | 111 | 15853 | 75 | 5105 | 17 | 1462 |
| Bleaching, Finishing, Dyeing, Printing | 29 | 4536 | 22 | 4106 | 11 | 380 | 14 | 1451 |

With regard to the average size of the firms and the scale of production there were, in 1910, 36 firms combining spinning and weaving, 17 spinning only, and 42 weaving only The double concerns, *Spinn-Webereien*, included 62 5% of the spindles and 68% of the looms, this is a higher proportion than in any other district in France or Germany, the Est coming nearest The average size of the firms was —

| | Spinning | Weaving |
|---|---|---|
| 1856 | 17 790 spindles | 335 Looms |
| 1895 | 27,140 ,, | 507 ,, |
| 1910 | 32,650 ,, | 517 ,, |

This may be expressed for 1910 also as follows —

| Spinning | | Weaving | |
|---|---|---|---|
| Spindles | Firms | Looms | Firms |
| 10 000–30 000 | 31 | 100–200 | 16 |
| 37 500–47 500 | 7 | 200–300 | 16 |
| 50 000–62 500 | 9 | 300–400 | 13 |
| 80 000 upwards | 3 | 400–500 | 4 |
| | | 500–600 | 5 |
| | | 600–700 | 2 |
| | | 700–800 | 9 |
| | | 800–900 | 2 |
| | | 1 000 upwards | 11 |

It appears that the Alsatian group bears much resemblance in its scale of production to the Est and Normandy there are many small firms both in spinning and weaving, and the general reasons previously advanced for the persistence of small units[1] apply to this district also the non-specialized character of the output, the complexity of management on the commercial side, and the scattering of the industry in rural areas according to the amounts of labour, or at earlier periods, water-power available

Raw cotton has to travel from Havre or Bremen in the case of American staple, Indian or Egyptian may be brought by other ports such as Genoa, Antwerp, or Rotterdam, but in both cases there is a heavy transport cost It was estimated that in 1914, 58,000 tons of raw cotton or thereby arrived in Mulhouse, one-third being Egyptian and the rest American and Indian Power is not relatively cheap, as coal must come at least from the Saar field All that has been said regarding the high cost of plant and equipment, as well as the large amount of floating capital required in spinning and weaving in the French districts, applies here also, much of the machinery in spinning is English, although Mulhouse firms compete, in weaving, German and Swiss firms as well as British installed looms The pre-war first cost of establishment was reckoned to be at least 50/– to 70/– per spindle and £40 to £60 per loom, and in addition a relatively large stock of raw cotton had to be kept, immobilizing much capital

After 1870 many of the mill-owners retired to Paris and the Vosges, and so it comes about that the limited liability

[1] See Chapter III

company is more prominent than in French districts, "some of the mills were controlled by large distributing firms who sold their products either in the grey or after having them bleached or dyed on commission"[1] Mulhouse has always been the centre for both the yarn and fabric markets, but the meeting is rather to fix current prices and discuss the general interests of the industry than to conduct business It is upon the aptitude and energy of its industrials, together with the steadiness of its labour, that Alsace relies to keep its position, and the employers have certainly been set no easy task in being compelled to change their home market twice in 50 years, to regain the markets lost in one country by substituting sales in another country at short notice is a serious strain upon the ablest selling agents

There were facilities for the technical instruction both of those desiring responsible posts in the management of factories and of work-people at Mulhouse, although in the case of the latter the results were insignificant In addition to the technical schools in weaving and spinning founded in 1869, there were the schools of design (1829) and the school of chemistry, as well as courses dealing with industrial and commercial education generally The "Société Industrielle," 1825, has done much to promote and foster these activities by founding and aiding in the maintenance of technical schools and by offered rewards for the encouragement of instructors The Alsatian Master Cotton Spinners' and Manufacturers' Association had affiliated to it in 1911 1,538,000 spindles and 31,000 looms, and its policy with regard to labour is very similar to that pursued by French associations, assistance to schemes of social foresight, provision of housing, avoidance of collective bargaining with labour, and hostility to trade unionism

The work-people, like those of the Est, are slightly organized, although both "red" and "yellow" unions have their quarters in Mulhouse The wages compared well with those paid in any other German cotton district in spinning, mule-spinners made from 28/– to 32/– per week, big piecers, 17/– to 20/–, ring minders, 15/– to 18/–, cardroom operatives, men 16/– to 18/–, grinders, 20/– to 23/–, in manufacturing, weavers, on two looms, 12/– to 14/–, on three looms, 16/– to 18/–, on four looms, 20/– to 25/– per week, but country districts tend to pay the lower rates named

[1] See Dehn *The German Cotton Industry*

In considering labour cost it has already been pointed out that many conditions which influence efficiency, such as the degree of specialization of output, lie beyond the control of labour, and within these limits it may be said that Alsatian labour is certainly less effective than that of Lancashire Dehn mentioned that a modern Alsatian mill with both mules and ring frames averaged 6 92 work-people per 1,000 spindles, Levy arrives at 7 per 1,000 spindles as a representative figure, and in weaving the four-loom is not more common than the two-loom weaver nor are the operatives a highly-specialized class with a cotton factory tradition, they may change from textile to textile or from factory to field or workshop

This outline has not done more than summarize certain of the chief features in the development of the Alsatian cotton industry, its localization, the extent and nature of its equipment, the classes of work, the scale of production, the degree of specialization, and allude to some characteristics of its labour supply and management It makes it clear, however, that France has now increased her power of production by the addition of a group similar to the Est and to Normandy in its general characteristics

## WAR DAMAGE AND DIFFICULTIES IN PRODUCTION

Before dealing with the market problems, some reference may be made to the damaged area of the north and the condition of production generally While the cotton industry did not suffer to the same extent as woollen and linen production, the invasion placed 2 200,000 spinning spindles, 700,000 doubling spindles, and a few thousand looms in German hands, and the loss was not measured solely by the large deduction from the total French equipment because much of the work of the Nord could not be done elsewhere There was no other French district capable of supplying the higher counts which fed the related industries of lace, hosiery, embroidery and tulle, and recourse had to be had to Lancashire supplies, the demand for these yarns was also diminished through the inclusion of centres such as Caudry and St Quentin in the combatant area

This loss was temporary, but it is difficult to say how rapidly the Nord may return to a pre-war level production, it depends upon the amount of actual material replacement to be made and the position with regard to skilled labour and management An estimate for the whole of the textiles in

the invaded area gave the numbers employed in May, 1920, as 47% of the 1914 level, and the statistics of the International Cotton Federation in 1920 give 9 400 000 spindles as the total for France but record that the active and idle spindles were 7 234 800 and the active spindles 5,658,630, it is also reported that the resumption of work has been much slower than was expected, that much machinery had been stripped from Lille, Roubaix, and Tourcoing, and that over 7,300 embroidery looms had been destroyed with hammers at St Quentin in 1918[1] This suggests that the Nord is not to make rapid recovery from its loss

Alsace also suffered through destruction of mills or abstraction of machines but the extent of injury is not clear, with regard to the non-invaded area, after the first few months of the war period, business was resumed and became even active where the influence of army orders was felt, it has been stated that the Est and Normandy have been easily able to maintain their position, but Roanne district has suffered, seldom having more than 75% of its equipment in action, and this has been due in part of the character of its output, which consisted of light and fashion goods rather than "standard" products, and to the difficulty of obtaining yarns

As distinct from losses due to enemy action which may be replaced, a more serious matter, from the long period standpoint, is the change in real costs of production which has taken place since 1914, the rise in cost of motive power and in labour cost is the most important Some of the causes of the high cost of fuel are no doubt temporary, but it seems unlikely that the Est, Normandy, or Alsace will ever be able to purchase steam-power at anything like pre-war rates and, as has already been appreciated in France, the one policy which might reduce disadvantages in this cost is the large scale development of electrical power by the utilization of both navigable and non-navigable rivers Although a complete survey of hydraulic forces has not yet been made, France is known to possess considerable resources and one estimate places her before Norway or Sweden and next to the United States, with over 9,000,000 H P available Much has been done since 1916 in developing such schemes, and the textiles might benefit both in the Est, and Alsace, in the Seine basin, and in the centre from changes in technical methods which reduced the cost of power

[1] *Manchester Guardian Commercial*, September 23rd 1920

The labour cost with the reduction of the working week to 48 hours is bound to affect the industry severely in any attempt to sell at home or abroad, it has already been argued that on the 60 hours week French labour probably cost about the same as the more highly-paid British labour on the 55½ hours week, if French labour comes down to British standards in hours, it is quite unlikely to take off the same production It seems as though the French spinners and manufacturers would be compelled to press on the industry a policy based on American rather than on Lancashire lines To quote Copeland in 1912, on this point " Face to face with a high wage level in all industries, the owners of cotton mills in the U S A have been forced to find means whereby they could employ as little labour and as cheap labour as possible, and yet assure the workmen of an income sufficiently high to induce them to accept the employment To economise in quantity of labour, the manufacturers have adopted new types of machinery and automatic devices of various sorts which necessitated the minimum of attention from the operatives, to utilize the cheapest labour, the immigrants, those mechanical appliances which required the least skill on the part of the workmen "

The development is already seen in the gradual displacement of the mule except in Lille, where the nature of the market for fine yarns is a chief factor, but the numbers spun on the ring in America would cover the work of any other district In weaving, the minding of four and six looms where the work makes it possible, and the use of automatic looms under suitable circumstances are the natural way to increase output per operative but much depends on the manner in which such a policy of increasing the capital in a firm in proportion to labour, is introduced Even when the most recent technical advances in methods of production are utilized there does not seem much hope of a lowering of cost of production to the consumers, and a vast amount of costly machinery will lie idle for 16 hours in each day bearing heavy overhead charges which depress both profits and wages It is this situation which has drawn attention to the possibilities of the shift system already applied in other industries, if the machines could be run for two shifts making 16 hours per day or even for two seven hour day shifts, the greatly increased production would bear more easily both fixed charges and wages There are many difficulties to be overcome before such a policy can be adopted (1) the rigid character of the Factory Acts would require

amendment to allow the two-day shift for women and young persons, (2) there would be difficulties in the supply of double teams, even if economy of labour were practised in both rural and urban districts, (3) the change in hours of work would produce a certain amount of social friction through its influence upon household arrangements and ways of living

The shift system appears to merit consideration, however, because of the savings involved and the increased production which would result Among these are (1) The economy in capital involved and the consequent saving in interest and depreciation, since it does not appear that cotton machines would depreciate more rapidly when working 15 hours than when working eight hours, this point also bears upon the increased capital required per operative by the latest technical methods which would be in itself a heavy charge upon employers owing to the present scarcity of capital The amount of floating capital would require increase but not proportionately, there would also be increased charges for light and management (2) The expansion of production with its favourable effect upon values and markets (3) The opportunity for labour to gain increased leisure without the danger that the shortening of hours might prove illusory through the rise in costs of production, the restriction of markets, and the consequent unemployment problem, the chance to increase wages from the increased product Without doubt, the idea would require the test of experiment but shifts are by no means unknown in the history of the textiles, and the old night shifts were open to far more serious objections, both from a business and a social standpoint, than two day-time shifts

The other labour question which seems to merit attention from employers is the regularization of their relations with the work-people It is difficult for an outsider to get into the spirit of an industry in this matter and the position of trade unionism has already been discussed, but the pre-war attitude of the employers' syndicat, with its negative outlook on all work-people's organizations seems to hold out little hope of solving in a satisfactory manner any problems in which the co-operation and confidence of labour is required A constructive policy is needed and the suggestion which naturally springs to the mind of an observer is one based upon analogy with the employers' own syndicats (1) that each district should have a joint board of employers and work-people to regulate local conditions of work and pay, either with the

powers of a trade board or on conciliation lines, and (2) that the institution of factory committees dealing with specified parts of inside administration should be given a trial. This latter scheme might lessen considerably the number of "*petites affaires*."

The cotton employers have always insisted upon untrammelled executive control of their business but the conditions under which labour renders its services are partly a matter of contract and partly regulated by the state, and a workman may fairly expect to have some say in determining the conditions of his employment in addition to the fixing of wage-rates, works committees have in England done useful work in removing the feeling of arbitrary action in cases such as the application of bonus systems and of fines, and there there are already cases in the French cotton industry where committees of a similar type control the social foresight schemes connected with factories. Both the weakness of trade unionism and the rural character of some of the cotton districts favour this development, the real test of the plan being whether it makes for more efficient internal working arrangements than the method of pure dictation.

While much larger and vaguer schemes for control of industry by the work-people have been a commonplace in the thought of the French labour movement for many years, they have no significance in the cotton trade, its workers have nothing like the knowledge of the industry possessed by the officials of the Lancashire cotton unions, and such claims have not been put forward by the textile unions. On the other hand in a district like the Nord such ideas cannot be entirely disregarded, as under the influence of such events as have occurred in Italy the policy of the unions might develop into some vague scheme of control. After all, the French workman is the workman of revolutions.

### MARKETS AND TARIFF QUESTIONS

Considerable discussion has taken place among commercial men during the war years as to how French industries were to hold and expand their markets; an instance of this is the work of the National Association of economic expansion which began, in 1916, an inquiry into French production and foreign competition and surveyed the textile group including the cotton trade. Some of the points raised in relation to markets may be mentioned to show the trend of thought and the difficulties which

confront the industry these are (1) the lack of specialization, (2) the Colonial tariff policy, (3) the Admission Temporaire, and (4) the added power of production through the return of Alsace

It may be said first, however, that the policy of the tariff laws of 1892 and 1910 is not in question, the fiscal controversy is out of fashion in France There has been, to be sure, considerable disillusionment on the advantages of high tariffs, and disappointment that France with her exceptional wealth in industrial capacity and in capital has not taken the place in international trade to which she appeared entitled, but opinion is predominantly protectionist, and the cotton industry is specially favourable to that policy, the only problems are those relating to the raising or lowering of the barrier and the discriminations between different articles and different nations

1 French observers, noting the rapid economic advance made by certain German industries, have advocated the policy of forming cartels and combines to facilitate exports and mass production The French industrials have learned much during the war years of joint action in "consortiums," joint purchasing associations, and so on, but the difficulty is that "specialization is limited by the extent of the market," and the varied character of the cotton output does not lend itself to mass methods "We cannot hope," says Grillet, "for sales abroad of 'standard' goods, we ought to limit our ambition to the sale of our 'fantasy' and 'luxury' products, we are favoured by the fact that our clothes, lace, and embroideries are everywhere sought after, they sell themselves by their quality, good taste, the originality of design, the variety of materials in their texture, the large choice of new ideas, to keep this indispensable superiority, it is sufficient to preserve in our production that distinctive note of elegance which marks it" "We cannot afford to neglect exportation," he continues, "for our markets lack breadth and this narrowness is accentuated by the addition of Alsace"

This matter has already been sufficiently emphasized in relation to both spinning and weaving, it raises a broad question as to whether France should try to be self-contained and make a little of everything for her home market, although she cannot expect to achieve the maximum economies of production in every field at once with a home population of 40,000,000 and a colonial population of roughly 60,000,000, or whether she should specialize in the parts of an industry

in which she excels and enter the world markets This is not the occasion to judge the merits of French policy, as that cannot be done from the standpoint of any one industry, but the issue cannot be avoided Conscious effort might by means of combines of firms produce, however, a greater degree of specialization than is at present attained and the cotton industry like some others has, in the opinion of the industrials, been handicapped by the lack of shipping transport of an adequate kind to many markets and by the lack of an export bank which would grant credit on foreign transactions of a more extended nature than is given by the present banking system

The view is often expressed in France that it is not the power to export so much as the desire which is lacking in the cotton industry, enjoying an exclusive and valuable home and colonial market, spinners and manufacturers can afford to remain indifferent to the more risky and less profitable task of facing international competition and only use it to dump surpluses at periods of depression as in the case of the Exportation Society of the Est, which, according to Grillet, was abandoned in years of prosperity by its adherents and had to break off relations with its customers as it could not obtain supplies Again the output of fashion goods prevents the accumulation of stocks and appeals more to middle class customers, as the industry is directed towards satisfying known demands, it does not study foreign markets but asks them to accept what is left over from protected markets

2 The strong position held by the cotton industry in all the "assimilated" colonies has already been described, and a further extension of markets is desired by the application of the metropolitan tariff to Tunis, Morocco, and West Africa It is certainly a direct and easy method of increasing trade, but it has met with a steadily increasing amount of hostile criticism from two sources, the colonial party and the exporting industries

The colonial party stands for "tariff personality", this means a system adjusted to the specific needs and interests of each colony, and differs from tariff autonomy in that it derives its authority from the home, not the colonial, government It is therefore opposed to assimilation of colonial to metropolitan tariffs, holding that the tariff of each colony should be determined by its own economic and financial position, by its own needs of development, and that its interests should not be subordinated to the interests of any French industry,

however important that industry might be The exponents of this view have singled out the cotton industry for severe attack, and curiously enough the instance taken by Girault for special censure is one of interest to Lancashire " The economic policy of France in Madagascar,' says Girault, " aimed far more at supplanting English trade than at developing the external commerce of the colony" From 1898, England was gradually ousted by the tariff dues and one-half of the imports into the island were cotton fabrics in 1912 ' Thanks to the regime of assimilation, the external commerce of Madagascar is wholly in French hands, but ' the colony has paid dearly for this gain in French trade" He then argues that the natural development has been stunted and warped, sacrificing "natives, colonists and colonial government" "A single French industry, cotton manufacture, has drawn an appreciable profit from the application of the system This profit may be calculated at approximately ten millions in fifteen years (1898–1912) It was to permit this class of manufacture, important, no doubt, but narrowly limited, to gain these ten millions that the fortunes of a country larger than France have been compromised" " It would have been an advantage to the colony," an observer has written, " to have paid an indemnity of ten millions to the French textile manufactures and thus to have recovered liberty of action in the matter of its customs duties"

It is not the business of this survey to consider how far this view is justified by the facts but it brings out clearly the attitude of the colonial party French manufacturers were also seriously warned by their own Premier in 1911 " that the regime of the open door cannot be avoided in any of the new countries (e g , Morocco) which are being opened up" " You must persuade yourselves," he said, " that it is necessary to renounce the methods of exclusion that formerly bound the colonies to the mother-country and closed them to foreign competition" Besides, it is hard to build Chinese tariff walls across the African continent

It is easily understood that the exporting industries are not enamoured of a policy which is a direct source of international friction and which helps to handicap them in finding foreign markets , there is uneasiness as to the effect of a British protective tariff as it might be used for purposes of retaliation

Since 1914 the imports of cotton yarns and cloth from foreign countries, especially Britain, have risen greatly

| | 1913 | 1915 | 1918 |
|---|---|---|---|
| Britain | 23 747 Q M | 309 640 Q M | 133 507 Q M (unbleached) |
| Spain | 744 | 137 644 | Total |
| Italy | 4 884 | 1.2 620 | 36 500 Q M |
| Switzerland | 1 757 | 4 791 | |

(Q M —Quintal Metrique = 100 Kilos)

The figures of 1915 were practically maintained in 1916 and 1917, and it remains to be seen how far this temporarily acquired market is likely to be held

3 With the return of Alsace, the "Admission Temporaire" becomes a practical question The system consists in the introduction without payment of dues of yarns and fabrics of foreign origin on condition of re exportation after passing through manufacturing processes The law of 1892 abolished the "Admission Temporaire," but established a system of partial drawback to meet the needs of Roanne district, which is not regarded as satisfactory Alsace has enjoyed the privilege of "Admission Temporaire,' especially for finishing and printing and had established an export trade in Swiss, Austria, and even English fabrics The printing trade is unanimous in its support of the "Admission Temporaire" In France there were 90 machines in the Rouen district, 30 in the Vosges, seven in Lyons, and, adding others, roughly a total of 130, to which is added the Alsatian equipment of 160 machines It is held, therefore, that without the "Admission Temporaire" the trade will suffer severely

The spinning industry is wholly opposed to the policy and the weaving industry is divided, the Est and a considerable portion in Normandy being against The arguments used in opposition are (1) that it is a breach in the consistent policy of 1892, the thin end of the wedge, meant to break the tariff, (2) on grounds of formal justice, it is asked why should the printers receive this privilege, and how could one refuse the weavers "Exportation Temporaire", (3) the depression of prices on the home market by discouraging exports, since the printers will work upon the cheaper foreign fabrics rather than buy home products, it also gives foreign goods the French stamp and deprives France of a great advantage, (4) the difficulty of avoiding fraud through failure to re-export

The partisans of "Admission Temporaire" claim serious advantages (1) it helps home export because it creates a regular connection with foreign markets and allows foreign travellers to enrich their stock with greater choice (2) it aids in maintaining prices and favours new creations by keeping in touch with novelties of other countries (3) it is the only way to maintain a finishing and printing industry with an international reputation such as that possessed by Alsace

4 An increase in foreign trading in cotton goods seems the only method of readjusting conditions of demand to absorb the additional output of the Alsatian group, this may not be felt until the total French equipment is reconstructed for work as in 1920, only 5,600,000 spindles are recorded as active out of an estimated total of 9,400,000 Alsace is not likely to lose all her German market as she has the advantage of proximity, but a considerable portion of her output will enter French markets and depress home prices unless expansion occurs, this competition would be specially felt in Normandy and the Est and it would not be avoided by any raising of the tariff It is hard to see as yet how the readjustment will take place, as recent events have accentuated the disadvantages of French industry when compared with Lancashire, and the foreign exchange difficulty tells both ways, it makes it easy to export but costly to buy raw cotton and coal Anything which cheapened yarns, however, would react favourably upon the related industries of lace, tulle, hosiery, and embroidery, and the divergence of interest is seen in the claim of Calais, Caudry, Lyons, and other centres for a provisional suspension of duties on yarns which are scarce in France, and the opposition of the Vosges to this proposal All things considered, it does not seem as if the policy of a high protective tariff will serve the cotton industry so well in the future as in the past, the necessity to export may compel a modification of ideas and an exporting industry is rarely interested in anything more than a moderate tariff

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